ACP-2019-18

GATEWAY DOCUMENTATION:
STAGE 2 DEVELOP & ASSESS

STEP 2A AIRSPACE CHANGE DESIGN OPTIONS
AND
DESIGN PRINCIPLE EVALUATION
VERSION 2

Roles

Action	Role	Date
Produce	Airspace Change Team UAS CDC	12 Apr 22
Review	DAATM	12 Apr 22
Approve	Change Sponsor RAF AIR Cap	14 Apr 22

Drafting and Publication History

Issue	Date	Change Summary
1.0	15 Jan 22	Submitted to CAA
2.0	14 Apr 22	Submitted to CAA

Contents

Annexes

Introduction

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington from the early-2020s. This requirement remains in place. The Change Sponsor for this ACP is the Ministry of Defence (MOD). There is also an emerging requirement for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from early 2023. The MOD felt that the best way to manage this new requirement was to combine both the Protector and RAFAT requirements within one airspace change. The Civil Aviation Authority (CAA) and the MOD agreed a means by which to do so (see Reference A on the CAA ACP Portal for details). In brief a revised Statement of Need was produced. In addition, a rationalisation of design principles was carried out to ensure that the design principles from the original RAFAT ACP were covered satisfactorily by those for ACP-2019-18.

The Ministry of Defence, and specifically Air Capability, is the Change Sponsor for this proposal. The proposal seeks to secure airspace for:

- the integration of Protector RG Mk1 into UK airspace in the early 2020s;
- the RAFAT to conduct training over RAF Waddington.

The purpose of this document is to demonstrate that the Change Sponsor has followed CAP1616 airspace change process. It forms part of the overall requirements for the Stage 2 Develop and Assess Gateway, Step 2A - Design Options. This is Version 2 of the Step 2A documentation, following some additions to the document to comply with the requirements of the airspace change process as laid down in CAP1616. In particular it contains a description of the Do-Nothing option, describing a baseline for the current airspace structure and activities against which the airspace design options can be compared.

Executive Summary

This airspace change proposal seeks to secure airspace for:

- the integration of Protector RG Mk1 into UK airspace in the early 2020s;
- the RAFAT to conduct training over RAF Waddington.

The Change Sponsor developed a comprehensive range of airspace design options which were shared with a wide range of identified stakeholders including those who were engaged with in Stage 1B. Feedback on the design options was invited.

Out of 155 identified stakeholders contacted 32 responded. 24 provided comment on the airspace design options. 7 stakeholders responded with no comment and one simply requested an update on the timeline for the ACP. Key themes for comment were:

Impact on airspace users
Airspace design
Air Traffic Management
Safety
Notification
Regulation
Engagement process
Operation of Protector

RAF Scampton / EG R313

The airspace design options were analysed to see how they aligned to the design principles which had been agreed in Stage 1B and were given an order of rank in terms of preference. An important addition to this version 2.0 of the submission is the advice that in Mar 22, following continued collaboration with GA-ASI, the manufacturer of Protector, the MOD was advised that the Protector activity could be contained within the airspace depicted in Option 1 LOW. The text accompanying the following low level airspace design options has been left unaltered from that contained in the original engagement material. However, readers are asked to bear in mind that Option 1 LOW will now accommodate both the Protector and the RAFAT activities

Section 1

1 Revised Statement of Need

1.1 There is a requirement for a large Remotely Piloted Air System (RPAS) to operate out of RAF Waddington from the mid-2020s. Pursuit of an ACP optimises an approach, in terms of efficiency and safety, for RPAS to operate from and to RAF Waddington. Furthermore, this approach will support the safe integration of the RPAS into the national airspace structures, given the anticipated performance of on-board systems and the surrounding airspace classification. Access to existing training areas around the UK will also be considered as part of the integration into the national airspace structures. There is an emerging requirement for the RAF Aerobatic Team to conduct display flying activity over RAF Waddington from early 2023 following the Team's relocation from RAF Scampton in late 2022. Integration of this requirement within the Protector ACP is considered the safest operating model.

2 Rationalised design principles

2.1 Design Principles (DPs) are developed with stakeholders to provide a shortlist of principles to inform the development of airspace design options. In order to ensure that the DPs agreed for ACP-2018-72 (Relocation of RAFAT training airspace) were covered sufficiently by those agreed for ACP-2018-19, the Change Sponsor completed a comparison of the two sets of DPs. Table 1 shows the DPs for ACP-2019-18 following the Change Sponsor's rationalisation.

Table 1 - ACP-2019-18 DPs following rationalisation with ACP-2018-72 Design Principles	
Priority	Design Principle
1	DP(a) Provide a safe environment for airspace users *including consideration of the risk to life of those on the ground during RAFAT display practices*
2	DP(b) Provide access to sufficient area for both training and operational objectives
3	DP(c) Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy DP(d) Minimise the impact to other airspace users
4	DP(e) Endeavour to make the airspace as accessible as possible DP(f) Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)
5	DP(g) Use standard airspace structure where possible (Conformity, Simplicity and Safety)

2.2 Comment was invited on this rationalisation during the Stage 2 engagement. Several stakeholders made suggestions for amendment of the existing DPs and for the addition of new ones. Such changes were not considered appropriate since the fundamental DPs for ACP-2019-18 had been agreed in Jan 2020 during Stage 1 of the ACP process.

2.3 The engagement material explained that the Change Sponsor had felt that the original RAFAT DP regarding consideration of sensitive areas was not appropriate to be measured through a DP and had decided to exclude it. Several comments were received from stakeholders regarding this decision, outlining the importance they attached to the MOD's obligation to consider sensitive areas. The Change Sponsor is in accord that sensitive areas should be considered, but does not feel that it can be managed under a DP. RAF Waddington has offered to provide guidance on the known local sensitive areas which RAFAT should consider. A statement prepared by RAFAT is at Annex A; it outlines how its displays are managed from a safety perspective and how it takes into account sensitive areas, such as congested areas. The MOD's obligation through the CAP1616 process is to assess how the RAFAT activity might affect ***civil airspace users*** which might, in turn, affect sensitive areas and **not** the direct impact of the **military activity**. The Change Sponsor will endeavour to minimise any such impact if identified through the engagement and consultation phases and more specifically once the airspace design options have been finalised.

Section 2

3 Stakeholder identification

3.1 Stage 2 of the process outlined in CAP1616 requires Change Sponsors to test a range of airspace design options with the same stakeholders it engaged with in Step 1B. A refresh of the stakeholder lists was managed by the Change Sponsor to identify any changes in personnel in organisational posts and then, as per the agreement with the CAA at Reference A the Change Sponsor incorporated any additional stakeholders from the original RAFAT ACP.

3.2 A complete list of stakeholders is at Appendix A

4 Engagement methods

4.1 The opportunity to hold face-to-face meetings was limited due to coronavirus restrictions. However, the MOD managed to conduct useful engagement through the following means:

a. **Online Meetings.** An online meeting was held with the air navigation service provider, NATS, to obtain feedback to some early draft designs. The Change Sponsor also attended an online airspace users group where a short update on the ACP was given.

b. **Written communication.** Once the range of initial airspace design options was finalised, an email was sent to all identified stakeholders with a detailed engagement letter (Reference B). The letter contained the background to the additional RAFAT requirement, associated actions carried out by the Change Sponsor and our initial airspace design options. Stakeholders were invited to provide feedback. A feedback response form was provided. Details are available on the ACP portal.

4.2 The Change Sponsor continued with written communication as feedback was received where appropriate.

4.3 The formal period for stakeholders to send feedback to the written engagement letter was three weeks (total 15 working days), although a minor amendment to the letter was sent out to improve readability of the document, reducing the period to 13 working days.

5 Engagement chronology.

5.1 The table below details the engagement activity undertaken.

Table 2 – Engagement Chronology

Date	Action / Stakeholders Contacted	Notes
26 Jan 2021	All attendees at the Lincolnshire Airspace Users Group held online by RAF Cranwell (mix of 36 military and civilian airspace users)	Verbal update on Protector ACP and heads-up of planned Skyguardian deployment and TDA engagement. (Minutes from meeting at Annex B)
22 Feb 2021	Online meeting with NATS	Presentation given to introduce draft airspace design options, initial feedback received 11 March 2021 (follow-up interrupted by SkyGuardian work), PPT slides included in email records with NATS.
9 Sep 2021	All attendees at the Lincolnshire Airspace Users Group held online by RAF Cranwell (mix of military and civilian airspace users)	Voice update on Protector ACP and heads-up on the timeline for Stage 2 engagement.
25 Nov 2021	Engagement material sent to 155 identified stakeholders by email	Feedback requested by 17 Dec 2021, allowing 3 week engagement

		period. Accompanied by Feedback Response Form.
30 Nov 2021	V1.1 of engagement material sent to 155 identified stakeholders by email	Minor error corrected where cross-reference link had broken in original material. Feedback deadline remained 17 Dec 2021,
25 Nov 2021 – 17 Dec 2021	Responding to stakeholder feedback	Contact made by 32 organisations or individuals regarding potential airspace change (8 made no comment).
3 Mar 2022	All attendees at the Lincolnshire Airspace Users Group held online by RAF Cranwell (mix of military and civilian airspace users)	Verbal update on Protector ACP (Minutes from meeting at Annex C)
13 Apr 2022	Email sent to 155 identified stakeholders providing an update to Protector ACP.	Email to notify the addition of a Baseline scenario to the Options Appraisal Phase 1 (Initial) in Version 2 of the Stage 2A and 2B submissions and to provide an update on the feasibility of the airspace design Option 1 LOW.

Section 3

6 Airspace designs options

6.1 The MOD prepared a comprehensive range of airspace design options upon which it invited feedback and comment from a range of stakeholders as identified at Appendix A. The options were broken into two categories:

a. Airspace designs for the airspace in the vicinity of RAF Waddington below 9500 ft above mean sea level (AMSL) (known as **low level airspace design options**);
b. Airspace designs for the airspace in the vicinity of RAF Waddington 9500 ft AMSL – FL195 (known as **medium level airspace design options**).

6.2 At least one low level and one medium level airspace design will be required to accommodate Protector's operation in the UK; the RAFAT activity will only require one low level airspace design; RAFAT will not require access to any medium level airspace designs. The low level and medium level airspace design options are fully described in paras 8 and 9 respectively below.

7 The Do-Nothing option

7.1 RAF Waddington sits entirely within class G airspace, which ordinarily does not provide adequate protection or segregation respectively for RAFAT and Protector at IOC. In broad terms civil and military regulations specify that without an appropriately approved Detect And Avoid (DAA) capability to enable compliance with the Rules of the Air appropriate to the class of airspace, Protector must be flown using a Layered Safety Approach that specifically requires flight in segregated airspace. At IOC, Protector will not have an appropriately approved DAA appropriate to Class G airspace. Protector will be based at RAF Waddington. Additionally, having protected airspace is deemed essential for the safety of the RAFAT pilots and other airspace users. "Doing nothing" would effectively deny access to the airspace directly above RAF Waddington for Protector and RAFAT. In such cases CAP1616 requires the Change Sponsor to assess each option against a baseline in which the "do nothing"

scenario is used to describe the existing situation against which the changes that would result from the implementation of each proposed design option can be assessed. A map of the local area is at Figure 1. The baseline is as follows.

7.2 RAF Waddington in Lincolnshire is the hub of UK Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) and the main operating base for airborne intelligence aircraft and systems. Its current flying assets include:

a. RC-135W Rivet Joint (51 & 54 Sqns) - a dedicated electronic surveillance aircraft

b. Shadow R1 (14 & 54 Sqns) which contributes to the comprehensive intelligence gathering of the RAF's ISTAR Force.

c. E-3D Sentry AEW1, which was retired from active service in 2021 although is continuing an out-of-service training role.

d. Waddington Flying Club - a civilian flying club which operates PA28 and Tecnam P2008JC for flying training throughout the week and weekends.

Figure 1 – Local Area Airspace

7.3 RAF Waddington has an Aerodrome Traffic Zone (ATZ) and a Military Aerodrome traffic Zone (MATZ) and is abutted by RAF Scampton to the north and RAF Cranwell to the south. At the current time RAF Scampton is the home of RAFAT, which uses

EG R313 throughout the year for aerobatic display practices[1]. RAF Cranwell is the home No 3 & No 6 Flying Training School (FTS) operating the Embraer Phenom 100 (Multi Engine Pilot Training (MEPT)) aircraft and the 120TP Prefect aircraft respectively. It also has a thriving gliding club. RAF Coningsby is located to the east of RAF Waddington and is home to two frontline, combat-ready squadrons and is the training station for Typhoon pilots. It is also a RAF Quick Reaction Alert (QRA) station, protecting UK airspace. To the south west of RAF Waddington is RAF Syerston, home to 2 FTS, the RAF Central Gliding School and operates the Viking T Mk 1 glider and Robin DR400 aerotow aircraft.

7.4 Waddington's ATZ is a circle 2·5 nm radius centred on Waddington's aerodrome reference point (ARP) and is notified from surface to 2000ft AAL; the MATZ is a circle 5 nm radius centred on Waddington's ARP and is notified from surface to 3000ft AAL. Pilots requiring transit of either the Waddington ATZ / MATZ can to call Waddington Zone on frequency. No reply on the Zone frequency will indicate that Waddington MATZ can be crossed but pilots must continue to avoid the ATZ unless operating in accordance with previously agreed procedures. The Zone frequency is normally available 0800-1800 (local) Mon-Thu, Fri 0800-1700 (local) subject to station-based operational requirements.

7.5 The Lincolnshire CTA is located above and slightly north of RAF Waddington; the base level of Class A airspace overlaps Waddington's MATZ at FL125, lowering to FL85 to the west and rising to FL155 to the east. To the south of the CTA, the airspace is Class G up to FL195; Class C extends from FL195 upwards south of the CTA. However, during specified hours[2] much of the airspace over Lincolnshire is activated as a Temporary Reserved Area (TRA). Although the background classification between FL195 and FL245 is Class C, to avoid operational restrictions, military aircraft may operate autonomously or in be receipt of an air traffic service. MOD and USAFE aircraft are the predominant users but use of the TRA is not restricted to military users.

7.6 The local area is also populated by numerous civil airfields and airstrips supporting some significant leisure flying (general aviation, gliding, paragliding and parachute activity). Busy airfields at Temple Bruer and Wickenby are particularly adjacent to the proposed airspace and a very healthy level of general aviation and sporting/leisure flying activity takes place within the local area.

7.7 Over the past 5 years RAF Waddington's annual airfield movements have seen a reduction from 12431 in 2017 to around 9000 in each of the following 4 years. In 2021 the E3D was retired from service (although it is continuing to operate at RAF Waddington in an out-of-service training role); the Sentinel was retired in Feb 2022. Following this, early indications indicate a potential reduction in airfield movements for 2022 in the region of 20% compared with figures for 2018 – 2021.

7.8 About 18% of total movements last year were made up by practice diversions (PDs), the majority by aircraft from RAF Cranwell.

[1] RAFAT is due to be relocated to RAF Waddington by end December 2022 following the closure of RAF Scampton (this is further explained in this ACP submission documentation).

[2] Mon-Fri 0830 to 1700 UTC Winter; Mon-Fri 0730 to 1700 UTC Summer; Excluding English Public Holidays. TRA may be activated at other times by NOTAM.

7.9 The aerodrome operating hours are notified as follows, although it should be noted that RAF Waddington currently operates a flexible flying window and times may differ from them at short notice:

a. 0800 – 2359 Mon – Thu
b. 0800 – 1800 Fri

7.10 **Military aviation activity in current airspace construct.**

7.11 The MOD has presented 6 airspace design options up to 9500 ft AMSL directly over RAF Waddington to provide segregation for the Protector and RAFAT activities. The following paragraph endeavours to broadly describe the current military aviation activity in that airspace. Whilst military aviation is not wholly predictable, a typical day at RAF Waddington might be as follows. Rivet Joint and E3D aircraft are likely to depart early to their respective operating areas and recover later often carrying out an instrument approach to land. They do not routinely spend large amounts of time in the local area. Shadow may have up to 4 sorties per day, each typically departing to the northeast of Waddington for general handling activity before returning to base, crew change and repeat. Shadow may conduct a couple of radar circuits or visual circuits before landing. Waddington hosts numerous PDs throughout the day, mainly by RAF Cranwell aircraft and averaging 4 – 9 PDs per day. Waddington's Flying Club operates PA28 and Tecnam P2008JC which conduct sorties throughout the week and weekend, predominantly over the aerodrome and in the local area. The airspace directly overhead Waddington is used by aircraft from Cranwell and Coningsby to route outbound to the northwest and to position for instrument approaches to their respective aerodromes. These are all co-ordinated through routine ATC means.

7.12 The airspace design options presented to segregate Protector activity from 9500 ft – FL195 (airspace design Options 7 and 8 MEDIUM) encompass airspace that is used by Tutor and Prefect aircraft from RAF Cranwell up to 10,000ft. Cranwell's Phenom aircraft operate in in the same airspace FL80 – 120 and preferably above FL100 to separate from Tutor and Prefect traffic. Phenom operate 12 – 16 sorties per day with night flying on up to 3 nights per week. Phenom training syllabus includes airways joins at Trent and the aircraft make regular use of the Gamston and Lichfield Radar Corridors.

7.13 **<u>Civilian aviation</u> activity in current airspace construct**:

7.14 Whilst the MATZ is not a mandatory avoid for civil pilots, the majority of civil pilots call Waddington ATC when flying in proximity to RAF Waddington and when requiring to transit within 5 nm of RAF Waddington. On an average day, ATC will receive around 15 requests for MATZ and overhead crossings from GA aircraft (both leisure and sporting). This may peak to the high 20s on the busiest flying days, but is estimated to be less than 30 on any given day. Gliding activity is generally limited to the west and south of Waddington and is largely at 2000 – 5000 ft. Most requests for MATZ crossings are approved with minimum restrictions to the requested route and altitude. An occasional route alteration may be proposed by ATC to sequence crossers with Waddington traffic patterns either by lateral or vertical means. Outside the ATZ pilots are not duty-bound to accept the re-route and do not always do so, choosing to follow their stated route and keep a good lookout. The airspace 9500 ft – FL195 is used by gliders on a relatively infrequent basis and by the occasional aircraft leaving the national route structure to position for the Midlands airports. The British Parachute School aircraft at Langar make regular use of the area over the Vale of Belvoir up to FL150 as outlined in green on Figure 2 below.

Figure 2 – Langar Skydive Operating Area

8 Low level airspace design options:

8.1 The MOD prepared six low level airspace design options for the airspace in the vicinity of RAF Waddington below 9500 ft AMSL. When the formal engagement material was sent out to stakeholders, it was understood that all of the low level airspace design options except Option 1 LOW would accommodate both the Protector and RAFAT activities. It was explained that continuing work was being conducted within the MOD to see if the airspace design could be reduced to the volume of airspace depicted by Option 1 LOW without unacceptable impact on safety or operational capability for Protector in the UK.

8.2 In Mar 22, following continued collaboration with GA-ASI, the manufacturer of Protector, the MOD was advised that the Protector activity could be contained within the airspace depicted in Option 1 LOW. The text accompanying the following LOW airspace design options has been left unaltered from that contained in the original engagement material. However, readers are asked to bear in mind that Option 1 LOW will now accommodate both the Protector and the RAFAT activities. A footnote to the text in Option 1 LOW at Figure 3 has been added.

8.3 The low level airspace design options are intended for use as follows:

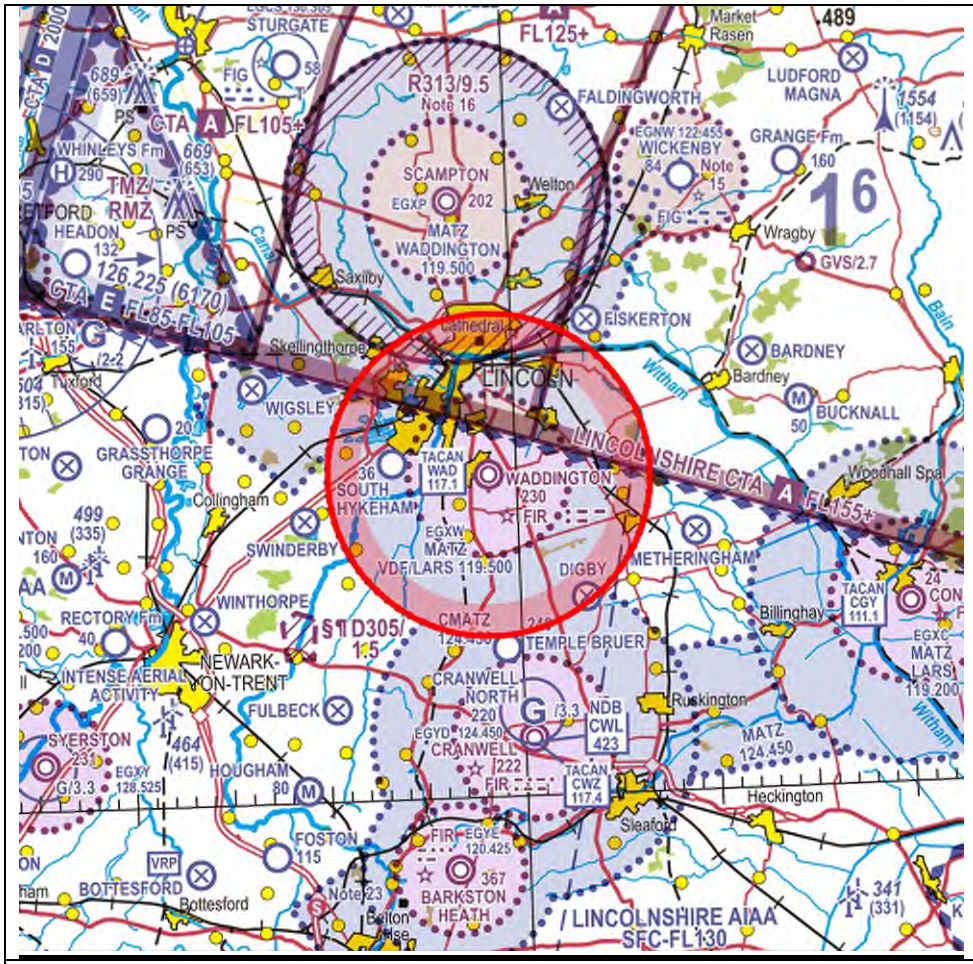
a. Protector will use this airspace:
   o During departure from RAF Waddington's main runway. It will execute its automatic take-off profile and perform a spiral climb to 9500 ft AMSL when it will enter one of the medium level airspace design options;

- During recovery to RAF Waddington. It will enter one of the low level airspace design options at 9500 ft AMSL from one of the medium level airspace design options. It will then perform a spiral descent and execute its automatic landing profile to the main runway;
- During necessary live-flying training sorties, it may remain wholly within a low level airspace design option.

b. RAFAT will use this airspace to conduct its flying display practices from surface to 9500 ft AMSL.

8.4 The MOD selected 9500 ft AMSL as the upper level for the low level airspace design options in order to safely accommodate the RAFAT display activity. Since there has to be an onward connection with the medium level airspace design options to enable Protector to continue its climb to access classes A & C airspace, the medium level airspace design options have a lower level of 9500 ft AMSL.

8.5 The MOD is reasonably flexible in the choice of upper limit of the low level airspace design options; the deciding factors are that it must be high enough to accommodate the RAFAT activity and must enable connection to the medium level airspace design options. The low level airspace design options are as follows:



Option 1 LOW

Activation:
Option 1 would be used for both RAFAT and Protector, but only if the MOD is able to develop procedures for Protector which would not unacceptably impact safety or operational capability for Protector in the UK[3].

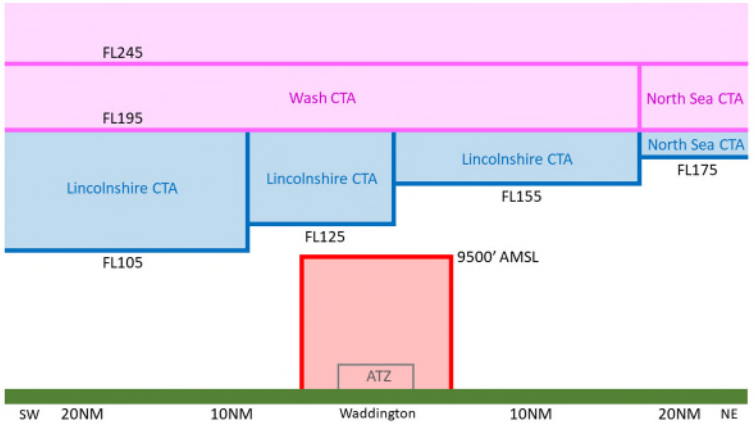
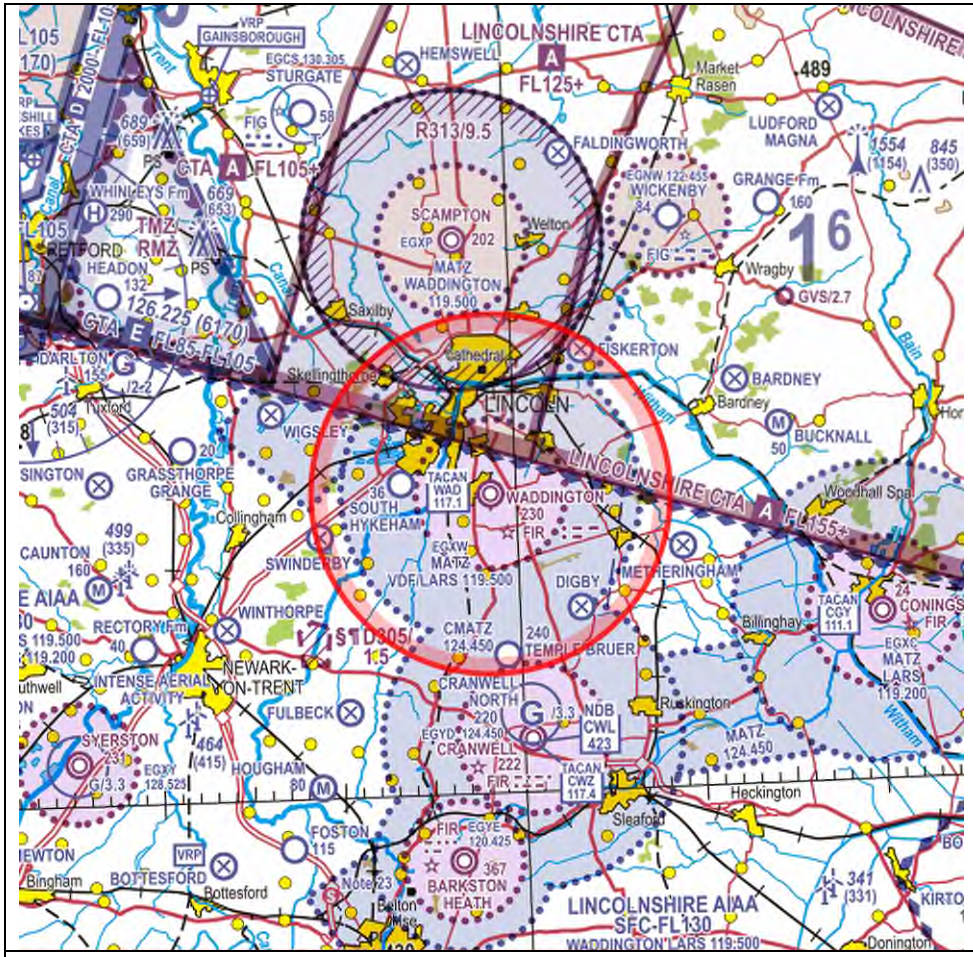


Figure 3- Cross-section SW/NE through extended centreline for RW02/20

Lateral Dimension: 5 nm radius circle centred on RAF Waddington's ARP[4].

Vertical Dimension: Surface to 9500 ft AMSL.

[3] In Mar 22, following continued collaboration with GA-ASI, the manufacturer of Protector, the MOD was advised that the Protector activity could be contained within the airspace depicted in Option 1 LOW.



Lateral Dimension: 6 nm radius circle centred on RAF Waddington's ARP.

Option 2 LOW

Activation:
Option 2 would be used for both RAFAT and Protector activities.

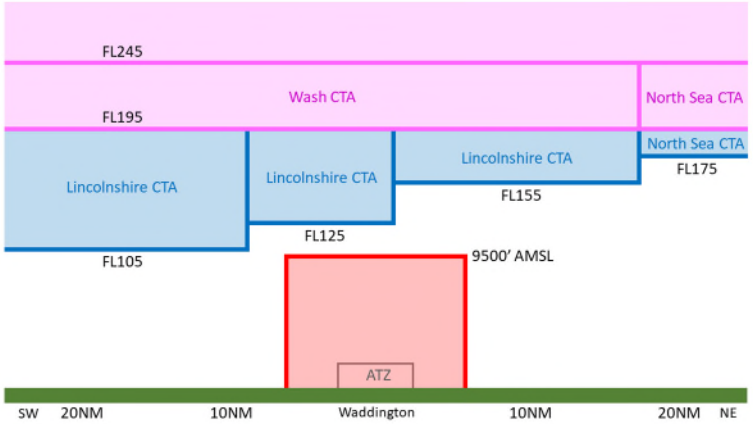
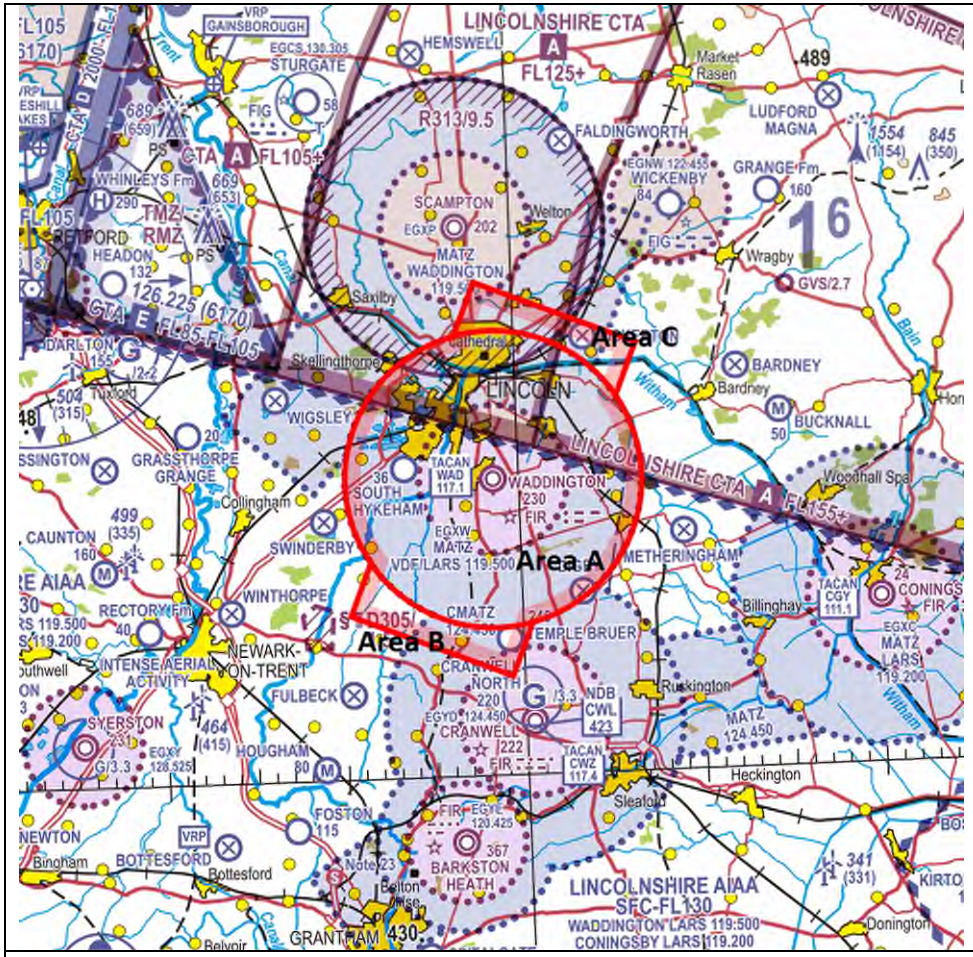


Figure 4 - Cross-section SW/NE through extended centreline for RW02/20

Vertical Dimension: Surface to 9500 ft AMSL.

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



Option 3 LOW

Activation:
Area A would be activated for RAFAT activity.
Areas A, B & C would be activated for Protector activity.
Areas A, B & C would be activated simultaneously when both activities are planned.

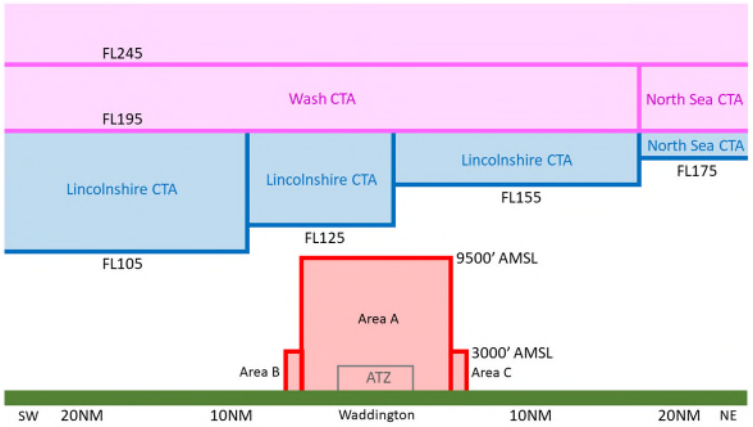
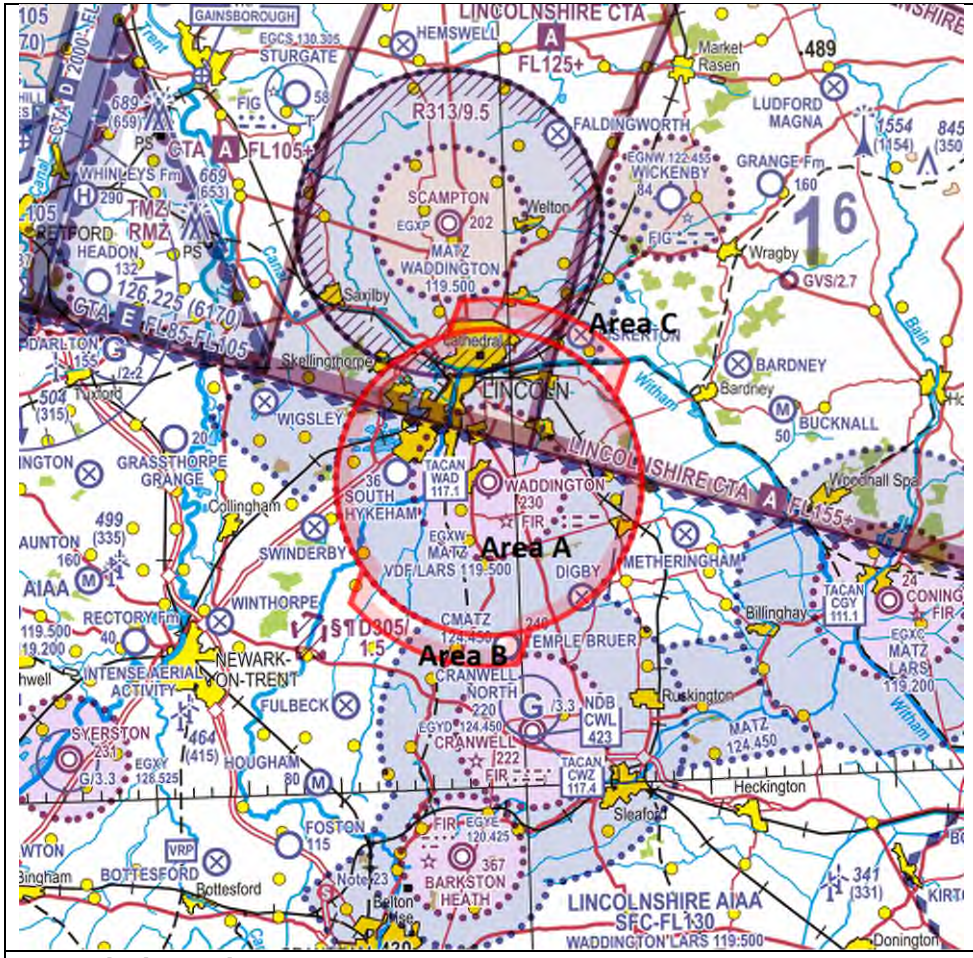


Figure 5 - Cross-section SW/NE through extended centreline for RW02/20

Lateral Dimension:
Area A - 5 nm radius circle centred on RAF Waddington's ARP:
Areas B & C - stubs aligned with the runway centreline, extending from boundary of Area A to 6 nm from ARP into RW02/20 approach/departure lanes and 3 nm either side of RW02/20 extended centreline. The ends of the stubs are perpendicular to the runway extended centrelines.

Vertical Dimension:
Area A - Surface to 9500 ft AMSL;
Areas B & C - Surface to maximum 3000 ft AMSL.



Option 4 LOW

Activation:
Area A would be activated for RAFAT activity.
Areas A, B & C would be activated for Protector activity.
Areas A, B & C would be activated simultaneously when both activities are planned.

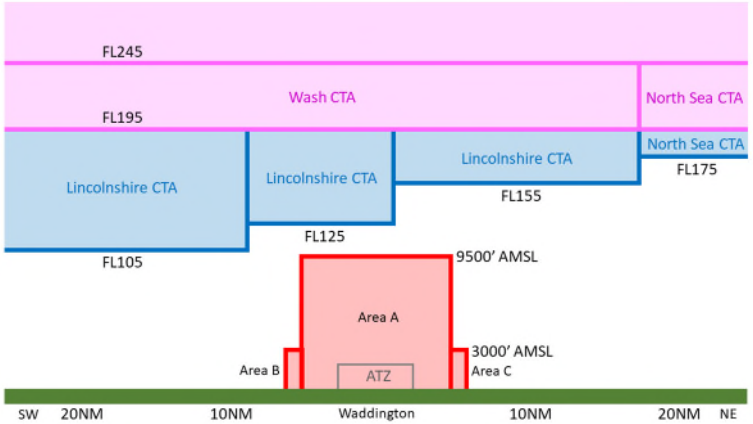
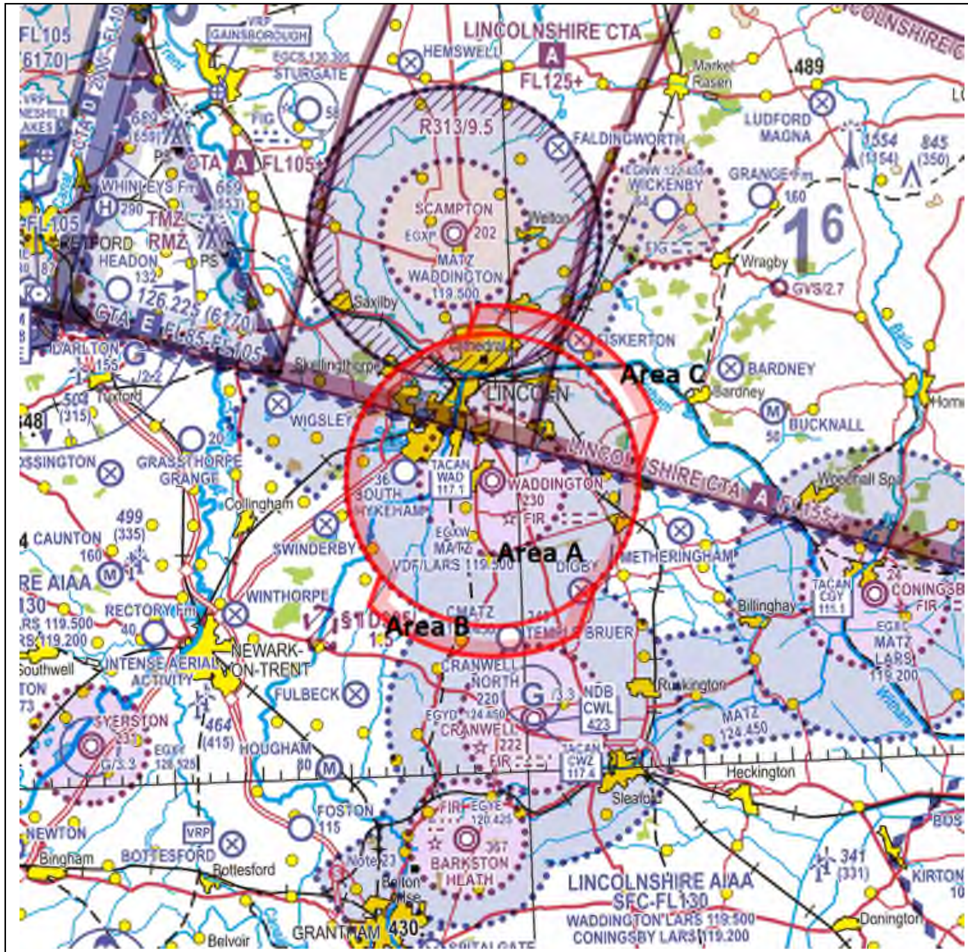


Figure 6 - Cross-section of SW/NE through extended centreline for RW02/20

Lateral Dimension:
Area A - 5 nm radius circle centred on RAF Waddington's ARP;
Areas B & C - stubs aligned with the runway centreline, extending from boundary of Area A to 6 nm from ARP into RW02/20 approach/departure lanes and 3 nm either side of RW02/20 extended centreline. The ends of the stubs follow a 6 nm arc measured from the ARP.

Vertical Dimension:
Area A - Surface to 9500 ft AMSL;
Areas B & C - Surface to maximum 3000 ft AMSL.



Option 5 LOW

Activation:
Area A would be activated for RAFAT activity.
Areas A, B & C would be activated for Protector activity.
Areas A, B & C would be activated simultaneously when both activities are planned.

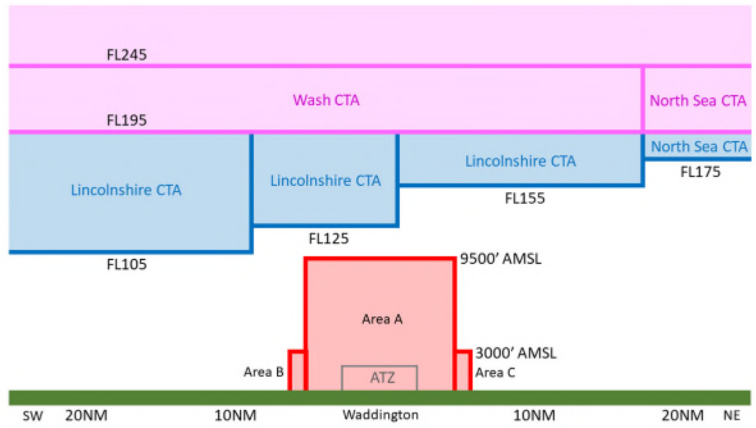
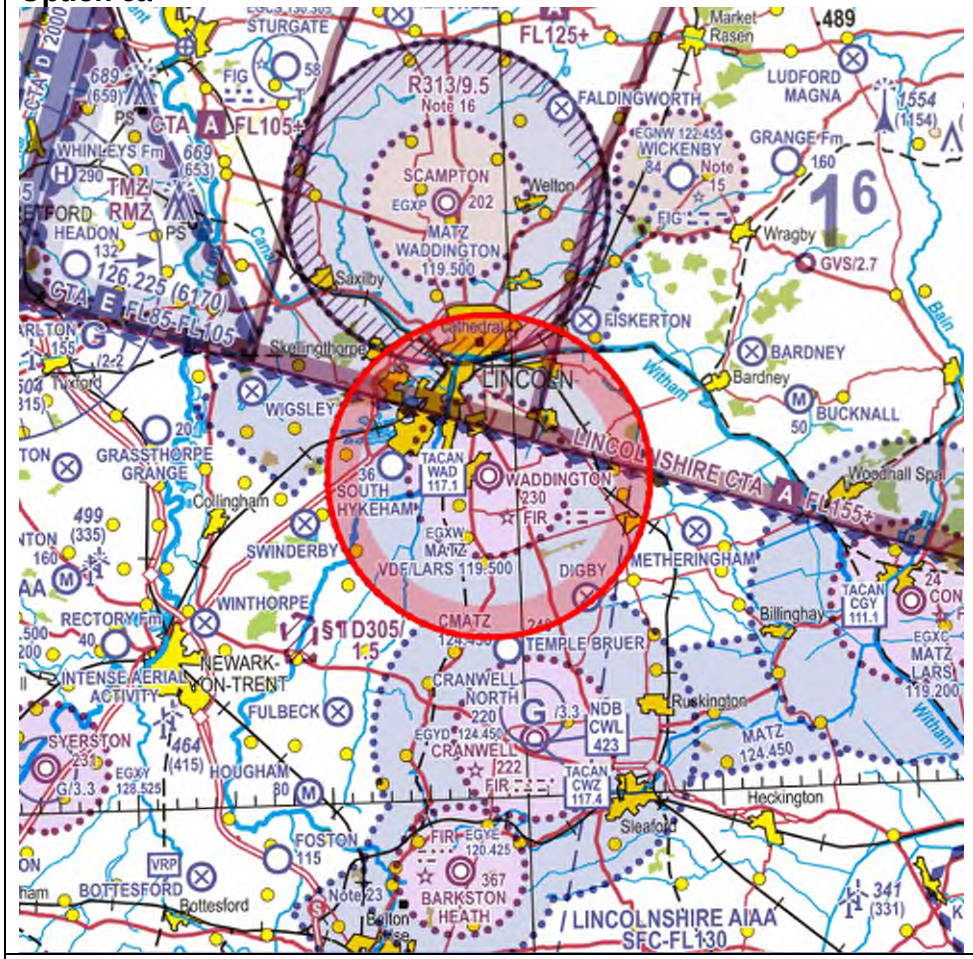


Figure 7 - Cross-section SW/NE through extended centreline for RW02/20

Lateral Dimension:
Area A - 5 nm radius circle centred on RAF Waddington's ARP;
Areas B & C – areas extending from the boundary of Area A to follow a 6 nm arc measured from the ARP, starting 2.5 nm west of the RW02/20 extended centreline and finishing 4.5 nm east of the RW02/20 extended centreline.

Vertical Dimension:
Area A - Surface to 9500 ft AMSL;
Areas B & C - Surface to maximum 3000 ft AMSL.

Option 6a



Lateral Dimensions:
Option 6a LOW - 5 nm radius circle

Option 6 LOW

Activation:
Option 6a would be activated for RAFAT-only activity
Option 6b (areas A, B & C) would be activated for Protector-only activity
Options 6a & 6b (areas A, B & C) would be activated simultaneously when both activities are planned.

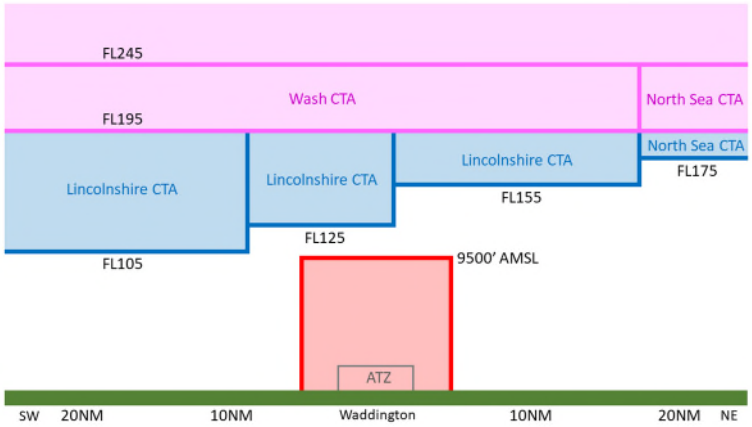


Figure 8 - Cross-section SW/NE through extended centreline for RW02/20

Vertical Dimensions:
Option 6a LOW - Surface to 9500 ft AMSL

Option 6b LOW

Option 6 LOW (continued)

Activation:
Option 6a would be activated for RAFAT-only activity
Option 6b (areas A, B & C) would be activated for Protector-only activity
Options 6a & 6b (areas A, B & C) would be activated simultaneously when both activities are planned.

Figure 9 - Cross-section SW/NE through extended centreline for RW02/20

Lateral Dimensions:
Area A is made up of a 5 nm radius circle with segments removed to the west and east of the circle. The western edge runs along a line 2.5 nm west of and parallel to the RW02/20 centreline. The eastern edge runs along a line running 4.5 nm east of and parallel to the RW02/20 centreline.
Areas B & C – areas extending from the 5 nm arc of Area A to follow a 6 nm arc measured from the ARP, starting 2.5 nm west of the RW02/20 extended centreline and finishing 4.5 nm east of the RW02/20 extended centreline.

Vertical Dimensions:
Area A – Surface – 9500 ft AMSL
Areas B & C – Surface to maximum 3000 ft AMSL

9 Medium level airspace design options

9.1 The MOD prepared two airspace design options for the airspace in the vicinity of RAF Waddington between 9500 ft AMSL and FL 195. Both options will accommodate the Protector activity as it climbs to reach class A or C airspace. Options 7 and 8 MEDIUM are located directly beneath Class C airspace, which during specified hours[5] is activated as a Temporary Reserved Area (TRA). The MOD is aware that a robust argument must be made for an active TRA to be considered a safe environment for Protector operation and is working on this argument. The upper limit of FL195 for Options 7 and 8 MEDIUM is predicated on this argument being able to be made.

9.2 Option 7 MEDIUM comprises the smaller volume of airspace and the Change Sponsor hopes that the MOD will be able to accommodate the Protector activity within this option. Work is ongoing to develop a safety argument that would enable this. However, should it become necessary, airspace design Option 8 MEDIUM will need to be considered.

9.3 The RAFAT activity will not require access to either of the medium level airspace design options.

9.4 The medium level airspace design options are as follows:

[5] Mon-Fri 0830 to 1700 UTC Winter; Mon-Fri 0730 to 1700 UTC Summer; Excluding English Public Holidays. TRA may be activated at other times by NOTAM.

Option 7 MEDIUM

Activation:
Provided a safety argument can be made with respect to the CAA Safety Buffer Policy, Option 7 would be activated for Protector activity only, to enable Protector to continue climb into classes A and/or C airspace.

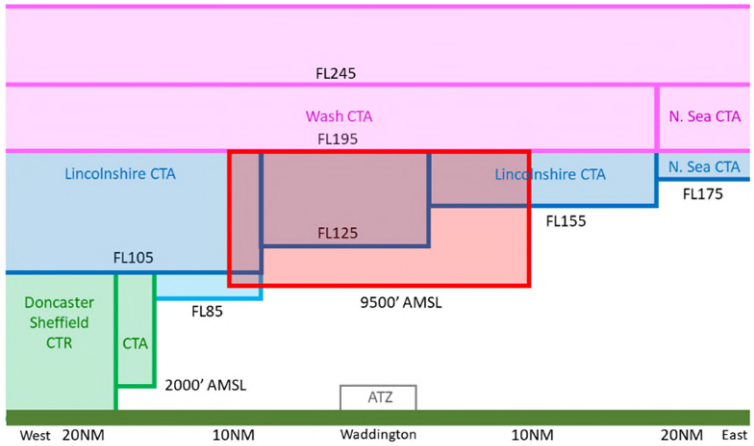
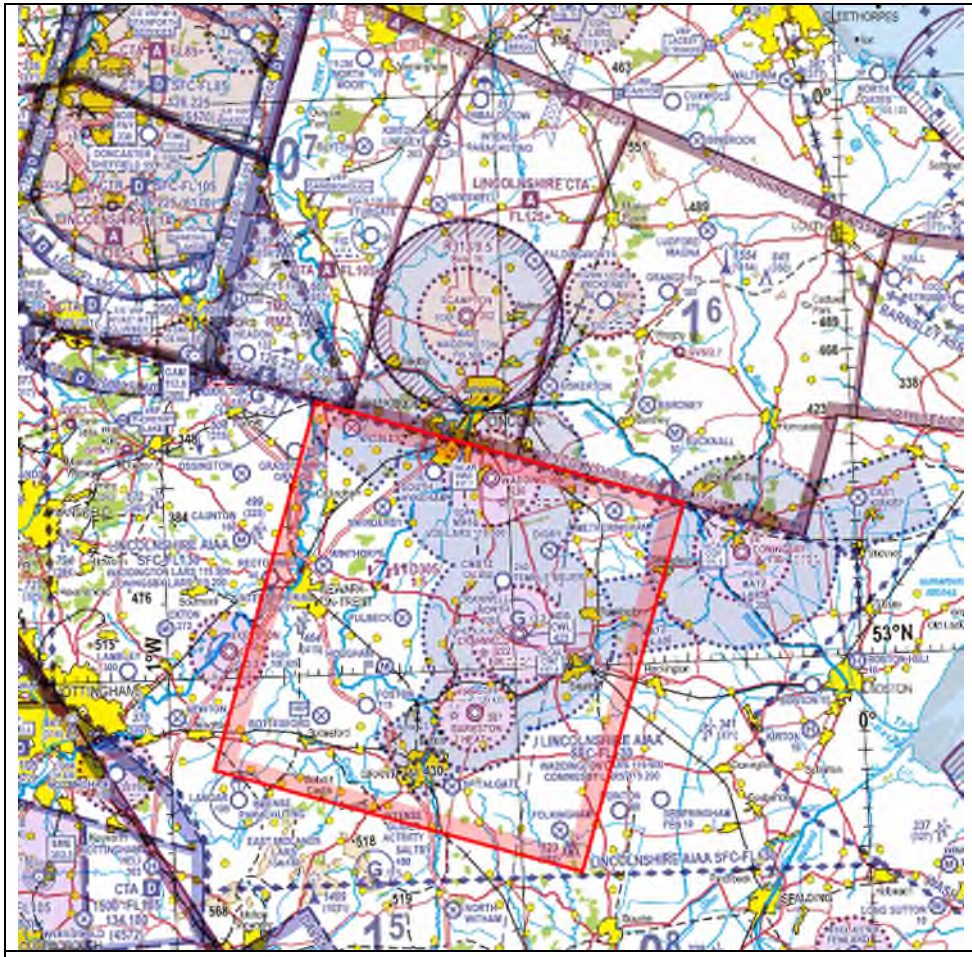


Figure 10 - Cross-section through a line running parallel to the abutting Lincolnshire CTA

Lateral Dimension: 20 x 10 nm rectangle aligned to and abutting the southern edge of the Lincs CTA.

Vertical Dimension: 9500 ft AMSL – FL195



Option 8 MEDIUM

Activation:
In the event that the safety argument determines that the additional airspace is required to satisfy the CAA Safety Buffer Policy, Option 8 would be activated for Protector-only activity to enable Protector to continue climb into classes A and/or C airspace.

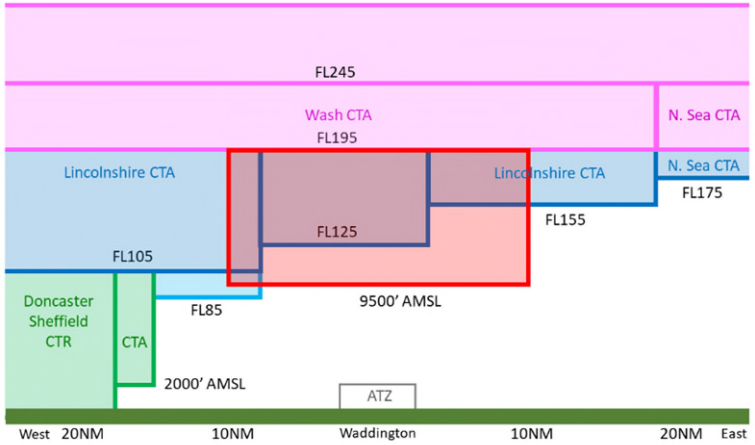


Figure 11 - Cross-section through a line running parallel to the abutting Lincolnshire CTA

Lateral Dimension: 20 x 20 nm rectangle aligned to and abutting the southern edge of the Lincs CTA.

Vertical Dimension: 9500 ft AMSL – FL195

10 Type of airspace to accommodate RAFAT and Protector activities

10.1 RAF Waddington sits entirely within class G airspace, which ordinarily does not provide adequate protection or segregation respectively for RAFAT and Protector at IOC. The MOD has given much thought to the most appropriate type of airspace to accommodate both activities and a summary follows, taken in turn by each activity and then further summarised in Table 3 below.

10.2 **RAFAT** - The RAFAT activity is afforded additional protection at RAF Scampton through the establishment of EG R313, which is active on a permanent basis Monday – Friday. This structure is a 5 nm radius cylinder of airspace reaching from surface to 9500 ft AMSL (specified as Regional Pressure Setting). Thought has been given to providing similar protection at RAF Waddington. However, it is felt that an equal measure of protection could be achieved via a less permanent structure, particularly since during RAFAT activity full radar surveillance and air traffic services would be provided by military ATC. Some form of controlled airspace, restricted airspace or danger area would seem appropriate.

10.3 **Protector** – In broad terms civil and military regulations specify that without an appropriately approved DAA capability, Protector must be flown using a Layered Safety Approach that specifically requires flight in segregated airspace. Protector is fitted with TCAS II, which may be approved to provide a DAA capability in airspace where all traffic can be expected to be operating a transponder (i.e. transponder-mandatory airspace). The MOD is producing an Airspace Integration Safety Argument (AISA) for the introduction of Protector at IOC into UK airspace. This work aims to develop an evidenced argument for the safe operation of IOC Protector under Instrument Flight Rules (IFR) and under an air traffic service within transponder-mandatory airspace, as well as in suitable segregated airspace. The AISA is therefore looking at the following types of airspace:

a. Class A airspace:
b. Class C airspace;
c. Class D airspace that is notified as a Transponder Mandatory Zone (TMZ)[6];
d. Class E airspace that is notified as a TMZ, although it is thought to be less likely to be able to produce an acceptable safety argument;
e. Class G airspace, segregated in the form of a notified Danger Area.

[6] Class D is usually designated around an aerodrome, hence not above FL100

Table 3- Proposed Airspace Types for Consideration with MOD Comment

Type of segregated airspace	Suitability for RAFAT	Suitability for Protector	MOD Comment
Class A	No	Yes	IFR flight is mandatory in class A airspace, which is not suitable for RAFAT
Class C	Yes	Yes	Not justifiable in terms of: o Restrictions placed on other airspace users; o Air traffic management resourcing; o Flexible use of airspace (notified hours of activation in UK AIP).[7]
Airspace Class D above FL100 or if below FL100 is also a TMZ[8]	Yes	Yes	Not justifiable in terms of: o Restrictions placed on other airspace users; o Air traffic management resourcing; o Flexible use of airspace (notified hours of activation in UK AIP).
Class E	Unknown	Unknown	Pending AISA for Protector, but thought unlikely to be suitable.
Class G Danger Area	Yes	Yes	Less impact on other airspace users since it can be tactically managed (does not have notified hours of activation in UK AIP)
TMZ/RMZ	No	Possibly	Not considered viable for RAFAT

10.4 It is envisaged, therefore, that the most economical type of airspace to be implemented (in terms of hours of activation, access to airspace and manpower resource) would be segregated airspace in the form of a danger area.

11 Feedback received from stakeholders

11.1 The stakeholder feedback has been analysed and summarised in this document

11.2 Engagement material (Reference B) was sent out to 155 stakeholders as listed in Appendix A. Responses from 32 stakeholders were received. Eight respondents expressed no comment on the design options. The record of engagement communication is presented in Appendix B. Analysis of the 24 responses which contained feedback on the airspace design options identified a number of key themes from the issues raised.

[7] Whilst there is current discussion regarding the possibility of tactically turning controlled airspace volumes on and off, the likely timescale involved precludes it as an option for this ACP.

[8] TMZ = Transponder Mandatory Zone.

Table 4 - Key Themes

ID	Theme	Description
1	Impact on airspace users	Access to airspace for GA and military airspace users for local strip users and for aircraft undertaking specific tasking, impact on paradropping and gliding clubs, restriction of Class G airspace, financial impact.
2	Airspace design	Airspace design dimensions, flight profiles within airspace, divisional level between low and medium level airspace design options, requirement for segregated airspace, type/classification of airspace, location of proposed airspace, importance of simplicity in designs.
3	Air Traffic Management	Provision of air traffic services throughout activation, availability of DACS, minimizing of activation periods.
4	Safety	Loss of safe separation (LoSS) and/or mid-air-collision (MAC), likelihood of infringements, operation of RAFAT over populated areas, ATC/pilot workload, increased funnelling/pinch-points, proximity of RPAS traffic over local airfields.
5	Notification	Period of notice for activation, activation means, suitability of notification system, ATIS broadcast.
6	Regulation	Adherence to CAA safety buffer policy.
7	Engagement process	Response time for airspace design options engagement
8	Operation of Protector	Request for further work on automatic take-off and landing capability (ATLC) flight profiles, estimate for full DAA availability.
9	RAF Scampton / EG R313	Future plans for EG R313, RAF Scampton MATZ/ATZ.

11.3 The MOD has the following comments on the key themes:

a. Impact on airspace users

o The Change Sponsor is aware that the airspace design options offered will have an impact on airspace users, but in accord with DP(d) we aim to minimise that impact. Stakeholders advised that all low level airspace designs would provide a negative impact on their flying activities, but Option 1 LOW would have the least impact. As stated above, in collaboration with the aircraft manufacturer, the Change Sponsor has been able to achieve a reduction of the flight profile of Protector to enable it to be accommodated within a 5 nm radius of RAF Waddington without impacting safety or efficiency. There seemed to be no clear preference between the other low level airspace design options, although there was a stated desire for simplicity in design which reduces the suitability of Option 6 LOW.

o Several stakeholders that use the airstrip at Temple Bruer raised concerns about restrictions on being able to access the strip readily and the impact that might have on the financial viability of the strip should Option 1 LOW not be viable. As stated above, in collaboration with the aircraft manufacturer, the Change Sponsor has been able to achieve a reduction of the flight profile of Protector to enable it to be accommodated within a 5 nm radius of RAF Waddington without impacting safety or efficiency. Therefore, Option 1 LOW is now viable and negates the need to raise the lower limits of any stub features on a design from surface to a height above ground. Concerned stakeholders have been informed of this. Pipeline inspections will be able to continue without delay under ATC control with the exception of during RAFAT displays when they might be expected to hold clear of any segregated airspace until the display is complete. Quick Reaction Alert launch activity from RAF Coningsby was raised as a concern, but it should be able to be managed as normal through internal military controller co-ordination.

o One military stakeholder made the point that the presence of Protector and RAFAT at RAF Waddington, aligned with the closure of RAF Scampton, would lead to a reduction of the availability of diversion aerodromes and opportunities to conduct practice diversions. Whilst this does not have specific bearing on the airspace design option selection, it may have impact on other aerodromes and airspace users. Furthermore, the same stakeholder suggested arrangements should be agreed for RAFAT display pre-positioning and break-off procedures to minimise impact on other airspace users and to avoid infringement of other units' airspace.

o With regard to Options 7 and 8 MEDIUM, a negative impact was highlighted by Skydive Langar parachute school. The Change Sponsor has been in communication with the operator and is confident that if Option 8 MEDIUM has to remain an option, a reshape of its dimensions can be managed to remove any impact on the paradropping activity. Military flying training may be impacted with the implementation of either Options 7 or 8 MEDIUM and clearly the smaller option would have least impact. The Change Sponsor will continue to engage internally with these units to reduce impact. It should be noted that the presence of Protector within its segregated airspace does not preclude its use by other aircraft. The airspace will not be required to remain sterile; ATC procedures are being drawn up to enable simultaneous use by other airspace users. ATC services will be available throughout the activation of the segregated airspace as appropriate to provide access to other airspace users.

o As explained in para 10 the MOD is in favour of keeping the classification of any airspace implemented as Class G and our preferred solution is to implement the required segregation in the form of a Danger Area.

b. Airspace design

o Concern about the size of the airspace design options was expressed. For the low level options it was felt that anything larger than Option 1 LOW was excessive. There was also much comment about the requirement for a 5.5 nm downwind ATLC pattern. As stated above, in collaboration with the aircraft manufacturer, the Change Sponsor has been able to achieve a reduction of the flight profile of Protector to enable it to be accommodated within a 5 nm radius of RAF Waddington without impacting safety or efficiency. The civil airspace users expressed no issue with the divisional level of 9500 ft AMSL between the low and medium level airspace design options, but there was useful feedback from military flying training squadrons at RAF Cranwell requesting thought be given to raising the divisional level to FL100. The 9500ft AMSL split had been selected to facilitate

RAFAT activity safely and bearing in mind that all low level airspace design options are located below controlled airspace, with a lower limit of FL125. The Change Sponsor will follow this up in due course with the interested stakeholders.

o Simplicity of design was cited as important to several civil and military stakeholders in order to reduce the risk of error. Low level airspace design options 3 - 6 offer only minor changes to the impact to airspace users but also add to complexity and potential confusion. One stakeholder made the point that regardless of the ability to activate various segments of segregated airspace, many airspace users would just avoid the structure by its largest dimension in order to avoid making an error which could lead to and airspace infringement of LoSS.

o As previously stated in (see para 10) the MOD's preferred type of airspace would be segregated airspace in the form of a Danger Area and there seemed to be a reasonable level of support from the stakeholders in this for both the low and medium level airspace design options. The implementation of any controlled airspace would require the airspace to be stood up as per its entry in the UK AIP regardless of whether Protector (or RAFAT for low level airspace design options) planned to be airborne or not. This would be poor use of manpower resource and certainly concern those stakeholders who provided feedback about the reduction of Class G airspace and access to segregated airspace. NATS, however, stated that they had a preference for Options 7 and 8 to be Class D airspace. The Change Sponsor is pursuing this with NATS to understand the reasoning.

o Several stakeholders questioned the suitability of basing Protector at RAF Waddington when there are several other locations in the UK which could accommodate RPAS activity. Unfortunately this is outwith the scope of the ACP to comment.

c. Air Traffic Management

o Provision of air traffic services throughout activation, availability of DACS, minimizing of activation periods.

o Several stakeholders felt that the provision of air traffic services was very important during the hours of activation of any segregated airspace. Similarly a DACS was felt to be of importance throughout activation. Some comment was received that the provision of a DACS to military airspace users was perceived to be made more readily than to civil airspace users and that crossing services in the Waddington area to civil users did not function well. DP(e) is aimed at making the airspace as accessible as possible and in order to do this it is planned for ATC to be available during all hours of activation and that a DACS should be offered whenever possible to all airspace users (controller workload and safety permitting).

o By implementing the airspace as Danger Areas (the MOD's preferred type of airspace), the MOD hopes to be able to minimise the activation periods.

d. Safety

o Feedback from military stakeholders in Lincolnshire exposed a concern regarding a potential increase in the risk of loss of safe separation (LoSS) and mid-air collision (MAC) due to the implementation of segregated airspace. Options 7 and 8 MEDIUM in particular were thought to impact this, although as stated above It should be noted that the presence of Protector within its segregated airspace does not preclude its use by other aircraft. In addition all airspace design options are only intended for routine use by Protector for departure and recovery whilst it accesses Classes A or C airspace for onwards transit and vice versa. It is not envisaged that Protector will operate for extended periods of time within the

airspace design options. The airspace will not be required to remain sterile; access for use by other airspace users is anticipated to be readily managed.

o Many stakeholders voiced concern over the safety aspects of the operation of RAFAT over populated areas. A statement from RAFAT/Hawk HQ has been produced providing background to the RAFAT training schedule, the options for RAFAT training which are under consideration and a brief description of how safety is assured. The statement is provided at Annex A.

o Concerns over funnelling of air traffic were expressed, from the point of view of both increased proximity of aircraft to each other and the potential increase in controller workload for traffic advice. The Change Sponsor is endeavouring to minimise funnelling by keeping the size of segregated airspace to a minimum and by the availability of a DACS. In addition, minimising the time that Protector and/or RAFAT will spend in the airspace, thereby maximizing the opportunity to successfully obtain a DACS.

o With regard to Options 2 – 6 LOW, operators from a local airstrip were concerned about the proximity of RPAS traffic turning directly overhead their airstrip. In a similar vein, one military stakeholder was also concerned about the potential, perceived erosion of the protection offered currently by Cranwell's ATZ and MATZ if RPAS were routinely operating downwind to 5.5nm from Waddington.

e. Notification

o Regarding the type of airspace to be implemented, the majority of those stakeholders who provided comment, supported the airspace to be in the form of danger areas. With that in mind suggestions were provided as to how such airspace might be notified. Airspace should be activated by NOTAM with a minimum of 24hrs notice. Concern was expressed regarding the suitability of the current NOTAM system to be dynamic enough to advise of short-notice deactivations of any airspace. The Change Sponsor is aware of this but is unaware of the availability of any other system that could be employed safely. One stakeholder suggested a continuous Automated Terminal Information Service (ATIS) broadcast would be beneficial to update airspace users on the airspace status. Whilst this proved problematic during the SkyGuardian deployment in 2021, the airspace sponsor will revisit the option.

f. Regulation

o NATS was keen to ensure that all design options would take into account the latest CAA Buffer Policy[9]. The Change Sponsor is developing its airspace integration safety argument with this in mind. This will be managed in conjunction with NATS.

g. Engagement process

o Four stakeholders felt that the time allowed for responses to the engagement letter was too short. The Change Sponsor would have liked to have provided more time but in order to maintain the ACP timescales it was important to get some initial feedback on the airspace design options as soon as possible. The feedback received (particularly regarding the negative impact of Options 2 - 6 LOW) has

[9] SARG Policy: Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes dated 22 August 2014

been extremely useful and added weight to the need to hasten work with the manufacturer to review the ATLC flight profiles. This work has now been completed, with a successful outcome. The Change Sponsor has advised stakeholders within the last 2 weeks that a reduction of the flight profile of Protector has been achieved, enabling it to be accommodated within a 5 nm radius of RAF Waddington without impacting safety or efficiency The MOD also advised stakeholders of some additional material that was to be included in this Version 2 of the Stage 2A submission in order to meet the requirements of CAP1616.

h. Operation of Protector

o Several stakeholders requested further work to be conducted to reduce the Protector ATLC flight profile, specifically so that the low level Protector activity could be managed within Option 1 LOW. As stated above, the Change Sponsor has already engaged with the manufacturer to do this.

o There was some interest in the likely date for delivery of the full DAA capability which would lead to the removal of the need for segregated airspace. Whilst the Change Sponsor does not have a specific date for delivery of this capability at this time, the RAF is currently engaged in finalising the requirements for the Air-to-Air radar as part of the final DAA capability. Details, including dates, will be published as soon as they are available. The intention is that as soon as the final DAA capability is available, there will be no need for the full extent of segregated airspace for the Protector activity as outlined in this change proposal. It is possible that a requirement for some segregation for Protector will endure pending the final performance specification of the air-to-air radar when it is delivered. Any requirement is likely to be contained within the confines of the Waddington MATZ. The MOD will keep stakeholders advised of developments.

i. RAF Scampton / EG R313

o It was largely felt that the simultaneous existence of EG R313 alongside RAFAT activity in segregated airspace at RAF Waddington was unjustifiable. A statement from RAFAT/Hawk HQ has been produced providing background to the RAFAT training schedule, the options for RAFAT training which are under consideration. The statement is provided at Annex A. Some stakeholders felt that in order for RAFAT to be able to operate at RAF Waddington necessitated the withdrawal of EG R313, or at least to alter its status from permanently active to one of needing to be notified by NOTAM. It was also noted that once the sale of RAF Scampton had gone through, the MATZ and ATZ at RAF Scampton should be withdrawn. The MOD is considering how the operation of EG R313 will be managed alongside the airspace design options over Waddington.

Section 4

12 Design principle evaluation

12.1 The Change Sponsor has developed its set of design options to address the Statement of Need and to align with the DPs as agreed and presented in the engagement letter. The design options have been further evaluated against the DPs and tested with the identified stakeholders at Appendix A. The Do-Nothing option is included in the evaluation for this submission. Whilst this was not in the original engagement material, it has been circulated to all stakeholders prior to this submission in agreement with the CAA. The evaluation is below.

Table 5 – Do-Nothing Option

Design principle evaluation		**Do-Nothing**	
		~~**ACCEPT**~~**/REJECT**	
Airspace will remain in current form.			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
This design option would not facilitate a safe environment for RPAS BVLOS operations in accordance with current regulation, which currently demands segregated airspace. It would also not provide the required added protection for RAFAT.			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
There are no viable options to enable Protector to access its training and operating areas around the UK from RAF Waddington without the provision of segregated airspace. RAFAT is unlikely to have access to EG R313 from the end of 2022 to perform its full display training and there will be no added protection for its flying displays at RAF Waddington.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
No change from current airspace, so accommodation of the maturing strategy will continue unaltered.			
Design Principle (d): Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
This option would have no impact on other airspace users. However, it would not provide the airspace that is required for Protector and RAFAT at RAF Waddington and, therefore, fails to achieve the Statement of Need.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
This option would not enable access to Protector under current regulation for RPAS BVLOS activity. RAFAT could continue to operate within EG R313 but only whilst it is still available for full flying display practice. However, it would provide all other air users the access that they are currently afforded.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
There would be no change from present where FUA is employed where practicable already.			

Table 5 – Do-Nothing Option

Design principle evaluation		**Do-Nothing**	
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
This option does not seek to utilise any new airspace structure and so does not compromise the principles of conformity, simplicity and safety.			

Table 6 - Option 1 LOW

Design principle evaluation		**Option 1 LOW**	
		ACCEPT/~~REJECT~~	
Segregated airspace activated by NOTAM; 5 nm radius circle centred on RAF Waddington's ARP; Surface to 9500 ft AMSL.			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT activities.			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d): Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
This option offers the smallest volume of airspace within the low level airspace design options, which together with activation via NOTAM and the availability of a DACS endeavours to meet this DP.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Simple in design and will be easily interpreted on a chart or via textual form.			

Table 7 - Option 2 LOW

Design principle evaluation		**Option 2 LOW**	
		~~ACCEPT~~/REJECT	
Segregated airspace activated by NOTAM; 6 nm radius circle centred on RAF Waddington's ARP; Surface to 9500 ft AMSL.			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
This is the largest volume of airspace of the low level airspace design options and, therefore, does not meet the DP.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Simple in design and will be easily interpreted on a chart or via textual form.			

Table 8 - Option 3 LOW

Design principle evaluation		**Option 3 LOW**	
		~~**ACCEPT**~~**/REJECT**	
Segregated airspace activated by NOTAM; 5 nm radius circle centred on RAF Waddington's ARP with stubs aligned with the runway centreline, extending to 6 nm from ARP into RW02/20 approach/departure lanes and 3 nm either side of RW02/20 extended centreline. The ends of the stubs are perpendicular to the runway extended centrelines; 5 nm radius circle extends surface to 9500 ft AMSL; Stubs extend surface to maximum 3000 ft AMSL.			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
Whilst other aspects of this option are the same as Option 1 LOW (e.g. NOTAM, DACS), it has a larger volume of airspace. It will, therefore have a greater impact on airspace users.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Whilst this option is a relatively standard airspace structure it adds minimal complexity			

Table 9 - Option 4 LOW

Design principle evaluation		**Option 4 LOW**	
		~~ACCEPT~~/REJECT	
Segregated airspace activated by NOTAM; 5 nm radius circle centred on RAF Waddington's ARP with stubs aligned with the runway centreline, extending to 6 nm from ARP into RW02/20 approach/departure lanes and 3 nm either side of RW02/20 extended centreline. The ends of the stubs follow a 6 nm arc measured from the ARP; 5 nm radius circle extends surface to 9500 ft AMSL; Stubs extend surface to maximum 3000 ft AMSL.			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
Whilst other aspects of this option are the same as Option 1 LOW (e.g. NOTAM, DACS), it has a larger volume of airspace. It will, therefore have a greater impact on airspace users			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Whilst this option is a relatively standard airspace structure it adds minimal complexity.			

Table 10 - Option 5 LOW

Design principle evaluation		**Option 5 LOW**	
		~~ACCEPT~~/REJECT	
Segregated airspace activated by NOTAM 5 nm radius circle centred on RAF Waddington's ARP with stubs extending from the boundary of Area A to follow a 6 nm arc measured from the ARP, starting 2.5 nm west of the RW02/20 extended centreline and finishing 4.5 nm east of the RW02/20 extended centreline. 5 nm radius circle extends surface to 9500 ft AMSL; Stubs extend surface to maximum 3000 ft AMSL.			
Design Principle (a): Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
Whilst other aspects of this option are the same as Option 1 LOW (e.g. NOTAM, DACS), it has a larger volume of airspace. It will, therefore have a greater impact on airspace users			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Whilst this option is a relatively standard airspace structure it does add some complexity.			

Table 11 - Option 6 LOW

Design principle evaluation			**Option 6 LOW**
			~~ACCEPT~~/REJECT
Segregated airspace activated by NOTAM Areas made up of a combination of Option 1 LOW and Option 5 LOW (please see description in para 8.5 for information.			
Design Principle (a): Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for both Protector and RAFAT			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
The airspace volume is sufficient to achieve training and operational activities for both Protector and RAFAT.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
Whilst other aspects of this option are the same as Option 1 LOW (e.g. NOTAM, DACS), it has a larger volume of airspace. It will, therefore have a greater impact on airspace users			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Whilst this option is a relatively standard airspace structure it does add some complexity.			

Table 12 - Option 7 MEDIUM

Design principle evaluation		**Option 7 MEDIUM**	
		ACCEPT/~~REJECT~~	
Segregated airspace activated by NOTAM; 20 x 10 nm rectangle aligned to and abutting the southern edge of the Lincs CTA; 9500 ft AMSL – FL195			
Design Principle (a): Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for Protector activity. RAFAT activity is not required in this airspace.			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
Investigation is on-going via the airspace integration safety argument to ensure appropriate application of CAA safety buffer policy. The MOD is continuing to develop flight profiles for the Protector activity in this airspace and to ensure that sufficient airspace is available. This option is not yet ruled out, but it may not be adequate.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
This option offers the smallest volume of airspace within the medium level airspace design options, which together with activation via NOTAM and the availability of a DACS endeavours to meet this DP.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Simple in design and will be easily interpreted on a chart or via textual form.			

Table 13 - Option 8 MEDIUM

Design principle evaluation		**Option 8 MEDIUM**	
		ACCEPT/~~REJECT~~	
Segregated airspace activated by NOTAM; 20 x 20 nm rectangle aligned to and abutting the southern edge of the Lincs CTA; 9500 ft AMSL – FL195			
Design Principle (a):.Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices.	NOT MET	PARTIAL	MET
Segregated airspace will provide an appropriate environment for Protector activity. RAFAT activity is not required in this airspace.			
Design Principle (b): Provide access to sufficient area for both training and operational objectives	NOT MET	PARTIAL	MET
Whilst the MOD is continuing to develop flight profiles for the Protector activity in this airspace, it is thought that this option provides sufficient airspace to achieve training and operational activity for Protector.			
Design Principle (c): Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy	NOT MET	PARTIAL	MET
Whilst there is little in the maturing strategy that this ACP can take advantage of, the MOD will continue to make best use of any means to reduce the impact on other airspace users.			
Design Principle (d) Minimise the impact to other airspace users	NOT MET	PARTIAL	MET
This option comprises a larger volume of airspace than Option 7 MEDIUM, but by activating the airspace by NOTAM and with the provision of a DACS, it endeavours to meet this DP. Should the MOD need larger airspace than offered by Option 7 MEDIUM, the MOD is considering a refinement of Option 8 MEDIUM, in particular around the south-western corner to minimise the impact on paradropping activity from Langar.			
Design Principle (e): Endeavour to make the airspace as accessible as possible	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (f)6: Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)	NOT MET	PARTIAL	MET
All options offer activation via NOTAM and the availability of a DACS to meet this DP.			
Design Principle (g): Use standard airspace structure where possible (Conformity, Simplicity and Safety)	NOT MET	PARTIAL	MET
Simple in design and will be easily interpreted on a chart or via textual form.			

13 Summary DP Evaluation

13.1 Low level airspace design options

13.2 Option 1 LOW has been confirmed as a viable airspace design option for both the Protector and RAFAT activities. As it is the smallest of all volumes of airspace within the low level airspace design options it is the only one that the MOD will take through to Stage 2B of the ACP.

13.3 Options 2 – 6 LOW have been discounted as they do not meet DP(d) in that they do not minimise the impact to other airspace users; only Option 1 LOW does this as it is the smallest volume of airspace and, without stubs, it will reduce the impact on operations at Wickenby and Temple Bruer particularly. Options 3, 4, and 5 LOW also add a small degree of complexity compared with Option 1 LOW. Option 6 LOW adds more complexity compared with Options 3, 4 and 5 LOW. Finally Option 2 LOW, whilst it is simple in design, it has the largest volume of airspace.

13.4 Medium level airspace design options

13.5 Following the DP evaluation the MOD has decided to take both Options 7 and 8 MEDIUM through to Stage 2B of the ACP. Internal MOD analysis of the likely flight profiles for the Protector activity in the medium level airspace design options, suggests that a compromise between Options 7 and 8 MEDIUM could be appropriate. Further work is to be carried out on this including the development of a robust argument with respect to the CAA Safety Buffer Policy. A refinement of Option 8 MEDIUM is also being considered, with potential to shave off the south-western corner of the airspace to minimise the impact on paradropping activity from Langar airfield.

13.6 In order of preference the MOD prefers Option 7 MEDIUM, since it is the smaller volume of airspace. However, as stated above a middle-ground between Options 7 and 8 MEDIUM is likely to be sought if Option 7 MEDIUM is not possible.

Section 5

14 Next steps in this proposal

14.1 This document will be submitted to the CAA as evidence to support the ACP-2019-18 Stage 2A.

14.2 It is part of the documentary evidence for the Stage 2 Assessment Gateway (document deadline 15 Apr 22, for the CAA's Assessment Gateway scheduled for 29 Apr 22).

14.3 The following CAP1616 timeline is anticipated:

Event as per CAP 1616	**Planned Date**
Stage 3 – Consult	29 Jul 22
Stage 4 – Update and Submit	20 Mar 23
Stage 5 - Decide	31 Jul 23
Stage 6 - Implement	30 Nov 23

References

A. Notes from a meeting held with the CAA on 15 Oct 21 (held on ACP portal)
B. ACP-2019-18 Airspace Design Options Engagement Letter V1.1 dated 30 Nov 21

Appendix A – Stakeholder List

Aviation Stakeholders:

NATMAC Members (37 members sent engagement material)

Waddington Aviation Stakeholders:

40 Acre Farm Aeroclub
Auborn Peacocks
Boston Aero Club
Bristow Helicopters, Humberside
Buckminster Gliding Club
Castle Bytham Airfield
Caunton airstrip
Conington Airfield
Darlton Airfield
Derbyshire Soaring
Doncaster ATC
Doncaster Sheffield Airport
East Midlands Airport
Frank Morgan Flying School
Headon Microlight
Hibaldstow Airfield
Hougham Airfield
Hucknall Airfield
Humberside Airport
Lambley airstrip
Langar Airfield
Leeds Bradford Airport
Leicester Aero Club
Leicester Airport
Lincolnshire Gliding Club
Long Sutton Airstrip
Loxly airstrip
Netherthorpe
New York airstrip
North Coates Airfield
Nottingham Airfield
Peterborough And Spalding Gliding Club
Rectory Farm Airfield
Retford Airport
Robin Hood and Doncaster Airport
Skegness Airfield
Strubby Airfield
Sturgate Airfield
Sywell Airfield
Temple Bruer Airfield

Trent Valley Gliding Club
Wickenby Airfield
Wilsford Airfield
Witham Valley airstrips - [redacted]
Witham Valley airstrips - [redacted]
Witham Valley airstrips - [redacted]
Witham Valley airstrips - [redacted]
Witham Valley airstrips - [redacted]
Witham Valley airstrips - [redacted]
Witham Valley airstrips (adjacent) - [redacted]
[redacted]

Aviation Stakeholders from RAFAT ACP:

Bagby Airfield
Bourn - rural flying club
Burn Gliding Club - A McDermott
Cambridge GC
Chatteris
Deenethorpe
Teeside International Airport
(Durham Tees Valley)
Elvington
Fenland
Full Sutton
Honourable company of air Pilots
Kirkbymoorside
Leeds Bradford Airport
Leeds East (ex-RAF Church Fenton)
Little Gransden
Melbourne Gliding Club, York
Nene Valley GC
North Luffenham
Peterborough Sibson
Pocklington
Sandtoft
Shacklewell Farm
Sherburn-in-Elmet
Syerston
UK Skydiving (aka North London Skydiving)
Virgin balloon Flights
Welland GC

Wolds GC
York Gliding Centre
Yorkshire Gliding Club (aka Sutton Bank soaring Club)

Other Aviation Stakeholders:

NPAS
Air Ambulance - Lincs
SAR - Bristow Humberside - TBC
Specialist Aviation Services (Air Ambulance)
Gama Aviation (Air Ambulance)
Helicentre Aviation (Pipeline Inspection)
Heli Air (Pipeline inspection)
PDG Helicopters
National Grid (Powerline inspection)
Western Power (Powerline inspection)
Drone Wars

Local Authorities:
Lincolnshire Wolds Area of Outstanding Natural Beauty
Natural England
Environment Agency
County Land and Business Association
Campaign to Protect Rural England (CPRE)
Lincolnshire County Council
North Kesteven District Council
City of Lincoln Council
South Kesteven District Council
South Holland District Council
Boston Borough Council
East Lindsey District Council
West Lindsey District Council
Nottinghamshire County Council
Rushcliffe District Council
Newark and Sherwood District Council
Bassetlaw District Council
Gedling District Council
Mansfield District Council
North Lincolnshire Council
North East Lincolnshire County Council
Leicestershire County Council
Melton District Council
Rutland County Council
Doncaster Metropolitan Borough council
Sheffield
Derbyshire County Council
Bolsover District Council
Lincolnshire Resilience Forum

Waddington Parish Council
Northamptonshire County Council
East Northamptonshire District Council
Peterborough City Council
Melton District Council
Cambridgeshire County Council
Huntingdonshire District Council
Fenland District Council
North Yorkshire County Council
York City Council
Selby District Council
East Riding of Yorkshire Council
Ryedale District Council
Richmondshire District Council
Leeds City Council
Hambleton District Council
Harrogate District Council

Ministry Of Defence (contacted via Defence Airspace and Air Traffic Management (DAATM)):
Headquarters 1 Group
Headquarters 2 Group
Headquarters 22 Group
USAFE (also contacted via NATMAC)
RAF Waddington
RAF Cranwell
RAF Coningsby
19 and 20 Sqn (RAF Boulmer)
78 Sqn (Swanwick Military)

Appendix B– Raw Engagement Records

Archived: 07 December 2021 16:06:34
From: [redacted]
Sent: 02 December 2021 10:16:58
To: UASCDC-ACP
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Updated V1.1
Sensitivity: Normal

Perfect, thanks [redacted]

[redacted]

[redacted]
Air Traffic Services Manager

Leeds Bradford®
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Exciting journeys *start here*

[redacted]
W: leedsbradfordairport.co.uk

From: UASCDC-ACP [mailto:UASCDC-ACP@qinetiq.com]
Sent: 01 December 2021 17:27
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Updated V1.1

Dear [redacted]

Thank you for your email. I have added you to my stakeholder list and will send a copy of all further communication to you. I have also attached Version 1.1 of the material sent on 26 Nov – a couple of small amendments have been made in paras 9.2 and 9.4 where the cross reference links had broken – just makes for a slightly easier read.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

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

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 30 November 2021 16:32
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Good afternoon

Whilst I don't think that this ACP will materially affect Leeds Bradford Airport, I'd appreciate your adding my email to the list of stakeholders.

This being because we have started our own ACP and our procedures going forward may start further back in the Doncaster CTA area and I'd appreciate the oversight.

Best

[redacted]

[redacted]
Air Traffic Services Manager

Leeds Bradford®
Yorkshire's Airport
Exciting journeys *start here*

[redacted]

W: leedsbradfordairport.co.uk

From: UASCDC-ACP [mailto:UASCDC-ACP@qinetiq.com]
Sent: 26 November 2021 15:19
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD), since you were identified as a stakeholder in an airspace change proposal which was commenced in 2019 (reference number ACP-2019-72), regarding the relocation of the training airspace for the Royal Air Force Aerobatic Team (RAFAT). This airspace change proposal was subsequently withdrawn, as access to the current volume of restricted airspace overhead RAF Scampton (namely EG R313) was thought to be assured for future needs.

As the availability of EG R313 once again cannot be guaranteed, the requirement has again emerged for RAFAT to be able to access airspace at another location in the UK, for future use as display training airspace,. Assessment of the viable opt i ons f o RAFAT indicate that access to airspace over RAF Waddington would be benef i ci al t ot het ea m The MOD feels that the best way to manage this is to combine the RAFAT requirement with an ongoing airspace change for RAF Waddington. The Change Sponsor for this airspace change proposal (ACP-2019-18) has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

If you engaged directly with the MOD through the withdrawn RAFAT airspace change proposal, you might be interested to take a look at the rationalisation of the sets of design principles provided in the attached letter. The MOD would be pleased to receive any feedback you would like to provide on this or on the airspace design options presented. You are not obliged to respond. If you do not, the MOD will assume that you are content with the design principles rationalisation, in particular. Please also advise if you no longer wish to be contacted by the MOD. This may be particularly applicable to those stakeholders in the RAF Leeming or RAF Wittering area.

For information, the ongoing airspace change proposal (ACP-2019-18) was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the design principle rationalisation and/or the airspace design options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format,

which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

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Archived: 07 December 2021 15:58:25
From: [redacted]
Sent: 03 December 2021 09:22:21
To: UASCDC-ACP
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1
Sensitivity: Normal

Thanks v.much!

[redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 03 December 2021 08:58
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Hi [redacted]

There you go!

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 02 December 2021 09:14
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Hi [redacted] – actually, sorry to be a pain, please could you send the doc again? I have a very full inbox that day and deleted it. Apologies. [redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 01 December 2021 20:07
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Dear [redacted]

Are you able to pass the information through to your Planning Committee? I suspect you were the closest we could find when trying to determine the best way to contact the right part of the council.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 30 November 2021 18:49
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

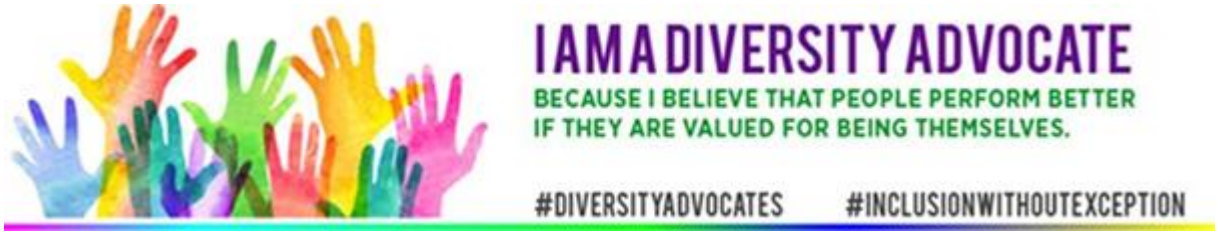
Hi – not sure why I am getting these. I am a local government comms manager. Should these be coming to me?

Thanks,

[redacted]

[redacted]
Communications Manager and Co-chair of LGBT+ staff network
(Pronouns: she/her)
Communications and Digital Services

[redacted]
Proud member of Leicestershire County Council's LGBT+ staff network



From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 30 November 2021 17:10
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

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 all,

Apologies, but the engagement letter sent out on 27 Nov 2021 contained some broken cross references to Figure captions in paragraphs 9.2 and 9.4. These have been corrected and are annotated in Version 1.1 (attached) by a line in the left hand margin. The corrections are minor in nature, but make for a clearer read of the document. The CAA ACP online portal has also been updated with V1.1.

[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: 26 November 2021 15:15
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

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Archived: 09 January 2022 13:43:10
From: UASCDC-ACP
Sent: 07 January 2022 13:07:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Sensitivity: Normal

Hi [redacted]

Thank you for your email – great timing.

In slower time, any response to the question about NATS preference for CAS as opposed to DA for options 7 & 8?

I recall a discussion early last year surrounding the means by which a joining clearance would be given depending on the type of airspace. Did it go along the lines of:

- If joining from adjoining CAS, NATS could provide full joining clearance, whereas:
- If joining from a DA, NATS would offer a "join on track" clearance?

I've probably not got that quite right, but I'd certainly like to understand the nuances (if any) that the different classes / types of airspace bring. No particular rush for the response.

[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: 06 January 2022 15:31
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi [redacted]

Thanks for your patience – no further comments from NATS NERL plc.

Regards

Michael

[redacted]
Manager NATS Operational Policy
[redacted]

NATS Private

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 22 December 2021 14:23
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

[redacted] – yes that will be fine.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 21 December 2021 15:19
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Importance: High

Hi [redacted]

Whilst we don't believe our response will change, I have been asked to do one further round of engagement – particularly with respect to your question below.

Therefore, can you please accept the NATS response as the draft version? We will provide final feedback by the 6th January which I think meets your CAA deadline of the 7th January.

Regards

[redacted]

NATS

[redacted]
Manager NATS Operational Policy
[redacted]

NATS Internal

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 17 December 2021 08:35
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear [redacted]

Thank you for the NATS Nerl plc response and for making the time to respond despite staff shortages.

All feedback is noted. Would you be able to explain why Class D is important to NATS for options 7 and 8 as opposed to a Danger Area? The Danger Area provides flexibility in terms of tactical planning and activation which Class D does not, but I am keen to understand the NATS point of view.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 15 December 2021 12:27
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi [redacted]

Please find attached the NATS NERL plc response.

Regards

[redacted]

NATS

[redacted]
Manager NATS Operational Policy
[redacted]

NATS Private

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

Sent: 26 November 2021 15:14
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

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Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

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ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	NATS NERL plc
Address (including postcode if possible)	NATS Corporate & Technical Centre 4000 Parkway Whiteley Fareham Hampshire PO15 7FL

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

NATS would propose that the following 3 DPs be added

1. Airspace Capacity - The Design and operation should sustain or enhance airspace capacity or NATS ATM performance.

2. Economic - minimise the adverse economic impact to other stakeholders e.g commercial airline fuel burn.

3. Environmental – The design and operation should not have a negative impact on NATS environmental performance or targets.

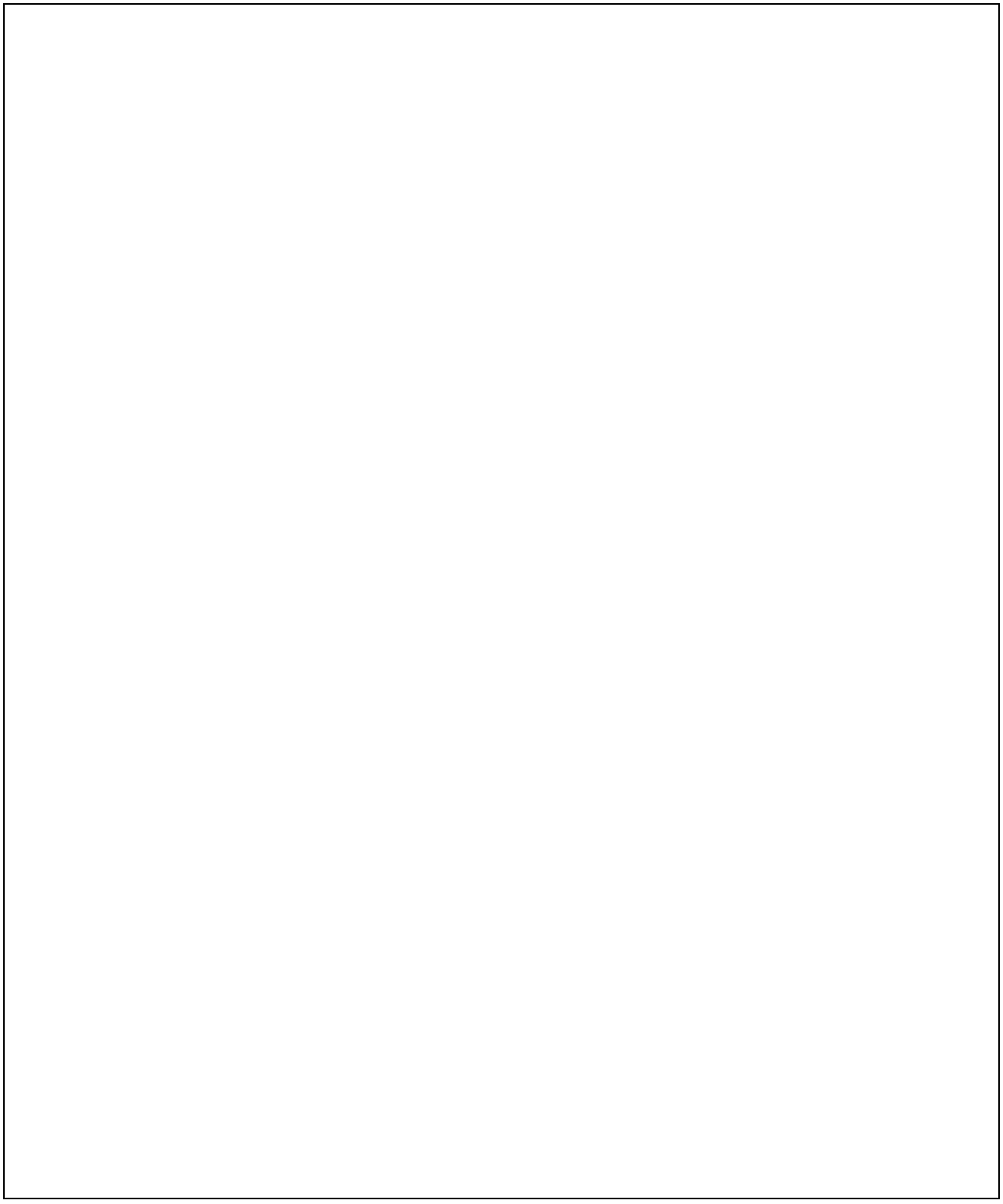
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Medium Level Airspace Design Options

1. Any activation will need to be NOTAM'd at DAY – 1. If the airframe needs to get airborne at short notice, how will this be managed?
2. The Design needs to take into account the latest CAA Policy on Buffer Policy. The design should be such that
    a. It builds in an appropriate buffer (to be assured in conjunction with NATS). Containment of activity to be assured within the dimensions of the DA and that no external buffer due to inadvertent excursion is required.
    b. This will ensure that there is no impact on the existing route structure within the NATS network (i.e. NATS does not need to apply any internal buffers within its existing airspace structures)
    c. The Airspace design contains the internal route (assumed racetrack pattern) that the aircraft will be taking. Protector must be capable of maintaining such a profile with assured levels of navigational accuracy to remove the requirement for buffers. Where the degree of navigational accuracy is assured this will define where the 'racetrack' is positioned and ultimately how large the danger area needs to be to contain the profiles being flown.
3. NATS will need a clear design of what the track will be within the various design options presented.
4. We will need to develop a LOA between all parties to ensure that there are robust procedures in place. This should include
    a. Notification of Airspace activation. Confirmation of the Airspace activation duration – is it activated and then closed after aircraft airborne and reactivated for recovery, or activated for the full duration of sortie?
    b. Flight planning (if required),
    c. Departure
    d. Pre-note requirements
    e. Handover/cleared flight path process
    f. Recovery procedures.
    g. Failure of data link – expected behaviour; continue on FPL route / return to base etc?
    h. Coordination of other traffic through the DA

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).
Medium Level Airspace Design Options – Class D
What is your biggest concern, if any, about this ACP?
The integration and approval of Protector within the UK Network.
Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

If you are a pilot do you routinely: • Operate an airband radio? Yes No • Operate a transponder? Yes No • Speak to ATC? Yes No • Fly above FL50? Yes No • Fly above FL100? Yes No
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? • Options 1 – 6 • Options 7 - 8
Any other feedback



Note of action:

Sponsor reminded NATS that engagement on the design options had taken place early in 2021, prior to pause in Protector engagement to accommodate SkyGuardian deployment in summer 2021.

NATS happy to refer to previous engagement since the medium level design options (options 7 & 8) had not changed and these were the ones that would affect NATS' operations.

NATS subsequently provided initial feedback on 15 Dec 2021 as per record presented

Archived: 09 January 2022 13:56:50
From: [redacted]
Sent: 14 December 2021 08:15:32
To: UASCDC-ACP
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Version 1.1
Importance: High
Sensitivity: Normal

Morning Ali

NATS will be unable to provide feedback on the Design Options by 17th December. This seems to be a very tight turn around for this stage of the ACP.

Regards

[redacted]

NATS

[redacted]

NATS Private

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 30 November 2021 16:23
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Version 1.1

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Dear all,

Apologies, but the engagement letter sent out on 27 Nov 2021 contained some broken cross references to Figure captions in paragraphs 9.2 and 9.4. These have been corrected and are annotated in Version 1.1 (attached) by a line in the left hand margin. The corrections are minor in nature, but make for a clearer read of the document. The CAA ACP online portal has also been updated with V1.1.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: UASCDC-ACP
Sent: 26 November 2021 15:14
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

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ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

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In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

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Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

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Archived: 15 December 2021 12:38:33
From: [redacted]
Sent: 12 March 2021 16:05:00
To: [redacted]
Subject: RE: UC Protector ACP Design Options Discussion (ACP-2019-18)
Sensitivity: Normal

[redacted]

Thanks for your email. I will get on with scheduling another meeting early next week and come back to you with some dates. We will work through your points below and update where we can. For info, no dialogue as yet with Doncaster. Are you meaning from the Protector flying GAT perspective or from the overall segregated airspace perspective?

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 11 March 2021 13:54
To: [redacted]
Subject: RE: UC Protector ACP Design Options Discussion (ACP-2019-18)

Hi [redacted]

The NATS team has discussed the informal design options presented by the Team. It would be good to schedule another catch up so we can expand on the points mentioned below. In general, NATS would support the idea of establishing a 'Waddington Box' subject to some further clarification. Our initial feedback is as follows

1. Any Danger Area will need to be NOTAM'd at DAY – 1. If the airframe needs to get airborne at short notice, how will this be managed?
2. The Design needs to take into account the latest CAA Policy on Buffer Policy. The design should be such that
    a. It builds in an appropriate buffer (to be assured in conjunction with NATS). Containment of activity must be assured within the dimensions of the DA and there must be no requirement for NATS to establish an external buffer in the event of inadvertent excursion.
    b. This will ensure that There is no impact on the existing route structure within the NATS network (i.e. NATS does not need to

apply any internal buffers within its existing airspace structures)

c. The Airspace design contains the internal route (assumed racetrack pattern) that the aircraft will be taking. And that protector is capable of maintaining such a profile with assured levels of navigational accuracy to remove the requirement for buffers. Where the degree of navigational accuracy is assured this will define where the 'racetrack' is positioned and ultimately how large the danger area needs to be to contain the profiles being flown.

3. We need a clear design of what the track will be within the various design options presented.
4. We will need to develop a LOA between all parties to ensure that there are robust procedures in place. This should include
   a. Notification of DA activation . Confirmation of the DA activation duration – is the activated and closed after aircraft airborne and reactivated for recovery, or activated for the full duration of sortie?
   b. Flight planning (if required),
   c. Departure
   d. Pre-note requirements
   e. Handover/cleared flight path process
   f. Recovery procedures.
   g. Failure of data link – expected behaviour;, continue on FPL route / return to base etc? ATCOs would need to understand implications
   h. Coordination of other traffic through the DA
5. Impact on Doncaster operations – has there been any dialogue to gain their initial feedback?

In addition, we were wondering if it would be possible to move future meetings to Teams if possible? Some of us are struggling with the quality of Webex.

Regards

[redacted]

NATS

[redacted]
Manager NATS Operational Policy
[redacted]

NATS PRIVATE

From: [redacted]
Sent: 25 February 2021 17:11
To: [redacted]
Subject: UC Protector ACP Design Options Discussion (ACP-2019-18)

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

All,

The presentation from Monday's meeting is attached in PDF format (too big in PPT).

Thank you [redacted] for the flight plan guide. We will take a look and get back to you.

[redacted]

Air Traffic Management Specialist
Defence UAS Capability Development Centre

[redacted]
Email: agreen6@qinetiQ.com

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Archived: 15 December 2021 12:35:51
From: [redacted]
Sent: 25 February 2021 17:10:00
To: [redacted]
Subject: UC Protector ACP Design Options Discussion (ACP-2019-18)
Sensitivity: Normal
Attachments:
20210222_Protector Design Options.pdf;

All,

The presentation from Monday's meeting is attached in PDF format (too big in PPT).

Thank you [redacted] for the flight plan guide. We will take a look and get back to you.

[redacted]

Air Traffic Management Specialist
Defence UAS Capability Development Centre

[redacted]
Email: agreen6@qinetiQ.com

UAS CDC

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Protector Design Options Meeting

UAS CDC, NATS & ISTAR FHQ
22 Feb 21

Protector ACP Airspace Design

Meeting Objectives:

- Expose current thinking regarding airspace design options for Protector ACP
- Obtain initial feedback from NATS regarding design options

Protector ACP Airspace Design

The story so far…

- MOD unable to provide useful details on likely flight profiles (departure & recover);
- Engaged help of the manufacturer;
- UAS CDC put together draft designs to get “buy-in” from MOD (SMEs & Pg Office);
- Workshop held Oct 20 with MOD SMEs to discuss draft designs to accommodate Protector operations at MOB at IOC;
- Follow-up took place to agree airspace design options to take forward to ACP Stage 2 stakeholder engagement.

ROYAL AIR FORCE

Protector ACP Airspace Design

Appropriate volumes of airspace must consider:

- Volume required to accommodate Protector departure and arrival profiles;
- Location of airspace to enable onward transit to operating areas (training and tactical operating areas) via existing:
  - Class A airspace (airways join);
  - Class C airspace;

NB - ACP has declared it is only likely to affect airspace within a 30nm radius of WAD

Protector ACP Airspace Design

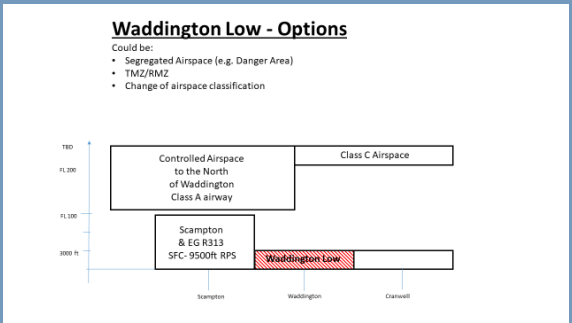
Appropriate volumes of airspace must consider:

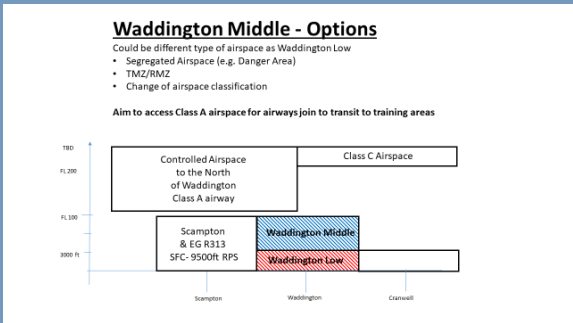
- Volume required to accommodate Protector departure and arrival profiles;
- Location of airspace to enable onward transit to operating areas (training and tactical operating areas) via:
  - Class A (airways join);
  - Class C airspace;

Option 1


LINCOLNSHIRE CTA
LINCOLNSHIRE AIAA SFC-FL130
LINCOLN
WADDINGTON
SCAMPTON
R313/9.5
NEWARK-ON-TRENT
NOTTINGHAM
GRANTHAM
BOSTON
SPALDING
53°N
0°

Option 1





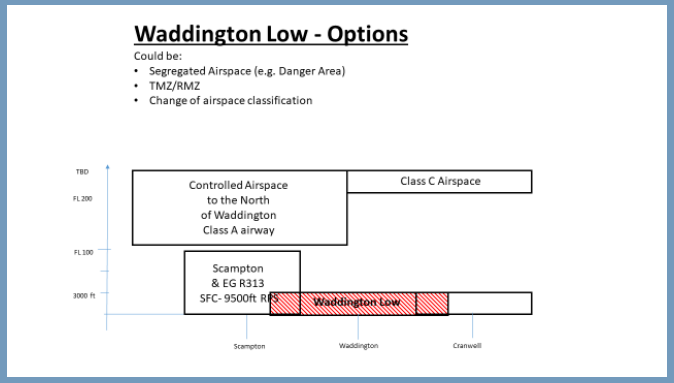
- 5nm radius circle
- Could be surface to ~3000ft aal
- Could be DA or Class D

- 5nm radius circle
- Could be surface to ~8000ft aal (or 3000 – 8000ft to sit on top of Waddington Low)
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ ;

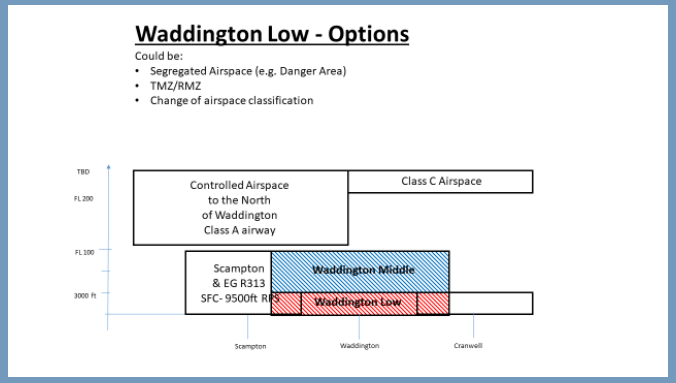
Option 2


CLEETHORPES
DONCASTER
LINCOLNSHIRE CTA
FL125+
R313/9.5
SCAMPTON
MATZ WADDINGTON 119.500
LINCOLN
WADDINGTON
LINCOLNSHIRE CTA FL155+
WIGSLEY
SWINDERBY
DIGBY
CRANWELL
CONINGSBY
LINCOLNSHIRE AIAA SFC-FL130
WADDINGTON LARS 119.500
CONINGSBY LARS 119.200
NEWARK-ON-TRENT
NOTTINGHAM
GRANTHAM
BOSTON
53°N
SPALDING
LOUTH
MANSFIELD
RETFORD
HEMSWELL
EAST KIRKBY
BARKSTON HEATH
METHERINGHAM
TEMPLE BRUER
SLEAFORD

Option 2



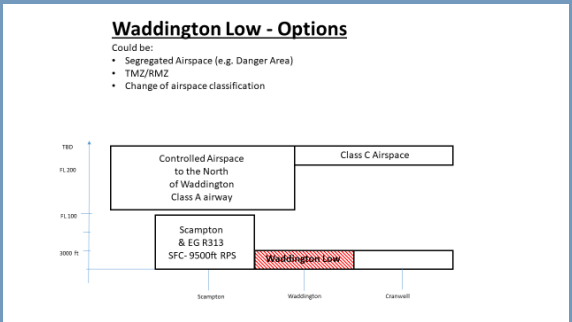
- 8nm radius circle
- Surface to 3000ft aal
- Could be DA or Class D



- 8nm radius circle
- Could be surface to ~8000ft aal (or 3000 – 8000ft to sit on top of Waddington Low)
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

Option 3

Option 3

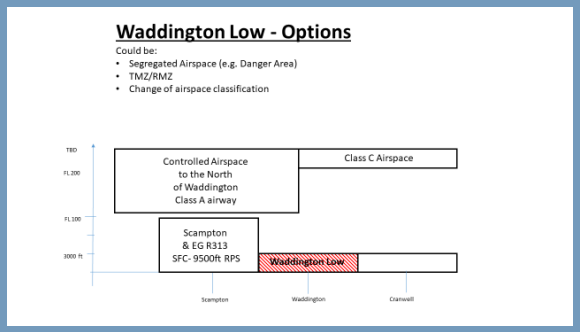


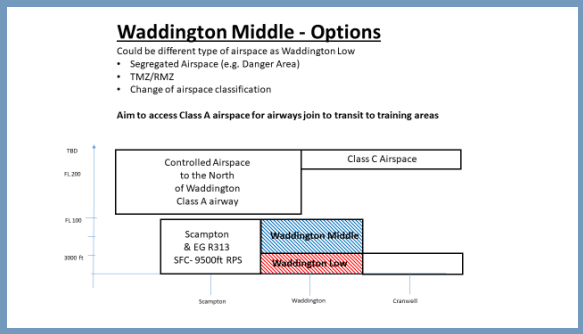
- 5nm radius circle with 3nm stubs (2 or 3nm either side of runway centreline)
- Could be surface to ~3000ft aal with stubs following MATZ structure (1000 – 3000ft aal)
- Could be DA or Class D

Option 4


R313/9.5
LINCOLN
WADDINGTON
LINCOLNSHIRE AIAA SFC-FL130
DONCASTER SHEFFIELD CTR SFC-FL85
DONCASTER SHEFFIELD CTR SFC-FL105
EAST MIDLANDS
NOTTINGHAM
CLEETHORPES
BOSTON
SPALDING
53°N

Option 4





- Rectangle 16 x 10 nm aligned with runway centreline
- Could be surface to ~3000ft aal
- Similar to Options 2 and 3, just shape variation
- Could be DA or Class D

- Rectangle 16 x 10 nm aligned with runway centreline
- Could be surface to ~8000ft aal (or 3000 – 8000ft to sit on top of Waddington Low)
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

ROYAL AIR FORCE

Option 5


CLEETHORPES
DONCASTER
DONCASTER SHEFFIELD
LINCOLNSHIRE CTA
LINCOLNSHIRE CTA FL125+
LINCOLNSHIRE CTA FL155+
HIBALDSTOW
INTENSE PARACHUTING
BINBROOK
CUXWOLD
WALTHAM
NORTH COATES
LOUTH
Market Rasen
HEMSWELL
STURGATE
GAINSBOROUGH
BLYTON
KIRTON-IN-LINDSEY
NORTH MOOR
FALDINGWORTH
WICKENBY
LUDFORD MAGNA
GRANGE Fm
R313/9.5
SCAMPTON
WADDINGTON
Wragby
Saxilby
Cathedral
SKELLINGTHORPE
LINCOLN
WIGSLEY
SISKERTON
BARDNEY
BUCKNALL
Horncastle
Woodhall Spa
NORTH SEA CTA
EAST KIRKBY
STRUBBY
BARNSLEY ASR
CONINGSBY
METHERINGHAM
DIGBY
TEMPLE BRUER
CRANWELL
CRANWELL NORTH
SOUTH HYKEHAM
SWINDERBY
WINTHORPE
NEWARK-ON-TRENT
FULBECK
Ruskington
Sleaford
Heckington
Billinghay
Stickney
Sibsey
BOSTON
BOSTON-HELI
53°N
1°W
0°
LINCOLNSHIRE AIAA SFC-FL130
WADDINGTON LARS 119.500
CONINGSBY LARS 119.200
MANSFIELD
OSSINGTON
GRASSTHORPE
CAUNTON
RECTORY Fm
INTENSE AERIAL ACTIVITY
SYERSTON
HOUGHAM
NOTTINGHAM
NEWTON
BOTTESFORD
FOSTON
BARKSTON HEATH
GRANTHAM
SPITALGATE
LANGAR
INTENSE PARACHUTING
EAST MIDLANDS LARS
INTENSE GLIDER ACTIVITY
SALTBY
NORTH WITHAM
FOLKINGHAM
POINTON
SEMPRINGHAM
KIRTON
Donington
Sutterton
Gosberton
Pinchbeck
SPALDING
Bourne
LONG SUTTON
Holbeach
FENLAND
WYMESWOLD
LOUGHBOROUGH
Melton Mowbray
Bingham
Keyworth
NOTTINGHAM HELI
LAMBLEY
TRENT

Option 6


LINCOLNSHIRE CTA
LINCOLNSHIRE AIAA SFC-FL130
R313/9.5
LINCOLN
SCAMPTON
WADDINGTON
CRANWELL
BARKSTON HEATH
SPITALGATE
NEWARK-ON-TRENT
NOTTINGHAM
BOSTON
SPALDING
53°N
0°
1°W

Protector ACP Airspace Design

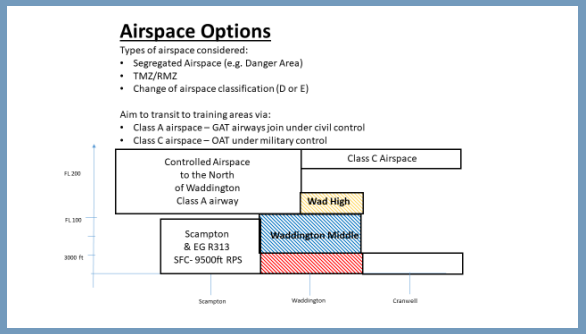
Appropriate volumes of airspace must consider:

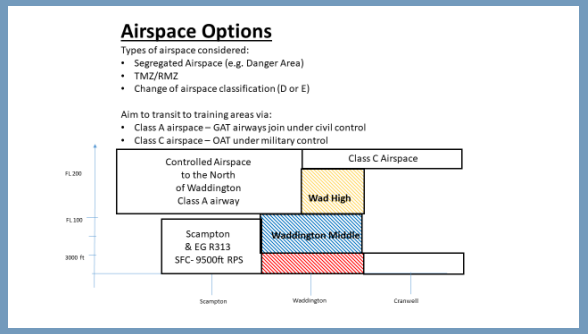
- Volume required to accommodate Protector departure and arrival profiles;
- Location of airspace to enable onward transit to operating areas (training and tactical operating areas) via:
  - Class A (airways join);
  - Class C airspace;

Option 7

*dimensions and location can be changed to better accommodate spiral/racetrack climb/descent and airways joining points

Option 7





- Rectangle 20 x 10nm aligned with southern edge of airways (Lincs CTA)
- Base coincident with upper limit of Waddington Middle
- Upper limit to suit airways joining level
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

- Rectangle 20 x 10nm aligned with southern edge of airways (Lincs CTA)
- Base coincident with upper limit of Waddington Middle
- Upper limit FL245
- Direct access to airways and Class C airspace
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

ROYAL AIR FORCE

Option 8a

*dimensions and location can be changed to better accommodate spiral/racetrack climb/descent and airways joining points

ROYAL AIR FORCE

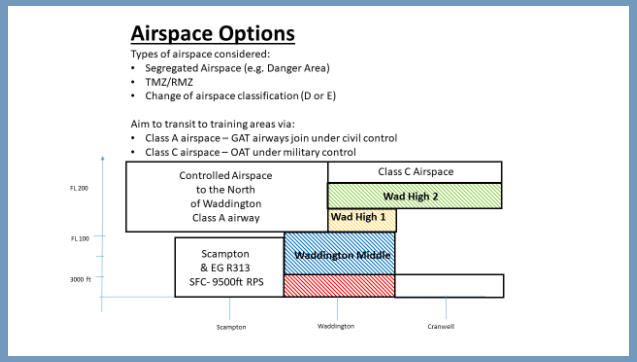
Option 8b

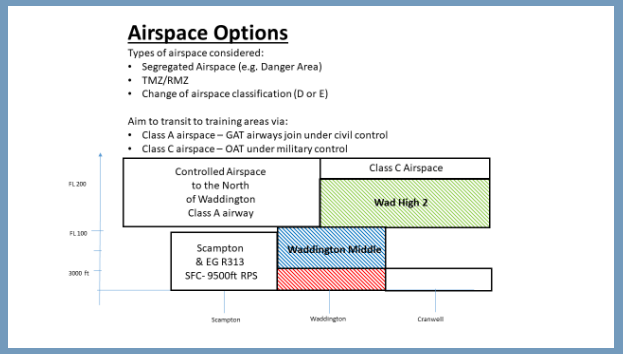
*dimensions and location can be changed to better accommodate spiral/racetrack climb/descent and airways joining points

Option 8c

*dimensions and location can be changed to better accommodate spiral/racetrack climb/descent and airways joining points

Option 8





- Rectangle 20 x 20nm aligned with southern edge of airways (Lincs CTA)
- Base coincident with upper limit of Waddington High 1
- Upper limit FL245
- Direct access to Class C airspace and space for elevator climbs / descents
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

- Rectangle 20 x 20nm aligned with southern edge of airways (Lincs CTA)
- Base coincident with upper limit of Waddington Middle
- Upper limit FL245
- Direct access to Class C airspace and space for elevator climbs / descents
- Could be DA, Class D, Class E + TMZ/RMZ or TMZ/RMZ

ROYAL AIR FORCE

Archived: 15 December 2021 12:49:38
From: [redacted]
Sent: 23 February 2021 16:00:55
To: [redacted]
Cc: [redacted]
Subject: GAT Flight Plan
Sensitivity: Normal

Hi Ali

At yesterdays Protector ACP meeting we referred to Flight planning for GAT. Here is a LINK to the EU guide on how to fill in a flight Plan (2012).

Regards

[redacted]

NATS

[redacted]
Airspace Development
Prestwick Development Team

[redacted]

NATS (Prestwick)
Freeson Avenue
Prestwick KA9 2GX
www.nats.co.uk

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Archived: 09 January 2022 16:02:28
From: UASCDC-ACP
Sent: 17 December 2021 10:40:00
To: [redacted]
Subject: RE: UC FAO Mr Ali Green REF: ACP-2019-18 RAF Waddington
Sensitivity: Normal

Dear [redacted]

Thank you for your email. I note that Natural England has no comment at this stage. We will keep you advised as the ACP progresses of course.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 14 December 2021 15:25
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: FAO Mr [redacted] REF: ACP-2019-18 RAF Waddington

Application ref: ACP-2019-18
Our ref: 376307

Dear Mr [redacted]

Natural England has no comments to make on this application.

Natural England has not assessed this application for impacts on protected species. Natural England has published Standing Advice which you can use to assess impacts on protected species or you may wish to consult your own ecology services for advice.

Natural England and the Forestry Commission have also published standing advice on ancient woodland and veteran trees which you can use to assess any impacts on ancient woodland.

The lack of comment from Natural England does not imply that there are no impacts on the natural environment, but only that the application is not likely to result in significant impacts on statutory designated nature conservation sites or landscapes. It is for the local planning authority to determine whether or not this application is consistent with national and local policies on the natural environment. Other bodies and individuals may be able to provide information and advice on the environmental value of this site and the impacts of the proposal to assist the decision making process. We advise LPAs to obtain specialist ecological or other environmental advice when determining the environmental impacts of development.

We recommend referring to our SSSI Impact Risk Zones (available on Magic and as a downloadable dataset) prior to consultation with Natural England. Further guidance on when to consult Natural England on planning and development proposals is available on gov.uk at https://www.gov.uk/guidance/local-planning-authorities-get-environmental-advice

Yours sincerely

[redacted]
Adviser
Operations Delivery, Consultations Team
Natural England
County Hall
Spetchley Road
Worcester
WR5 2NP

[redacted]

[redacted]

www.gov.uk/natural-england

Natural England offers two chargeable services - the Discretionary Advice Service, which provides pre-application and post-consent advice on planning/licensing proposals to developers and consultants, and the Pre-submission Screening Service for European Protected Species mitigation licence applications. These services help applicants take appropriate account of environmental considerations at an early stage of project development, reduce uncertainty, the risk of delay and added cost at a later stage, whilst securing good results for the natural environment.

For further information on the Discretionary Advice Service see here
For further information on the Pre-submission Screening Service see here

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Archived: 09 January 2022 16:00:57
From: UASCDC-ACP
Sent: 17 December 2021 10:36:00
To: [redacted]
Subject: RE: UC UC-ACP-18
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

-----Original Message-----
From: [redacted]
Sent: 16 December 2021 22:37
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC-ACP-18

Dear Sirs,

I am a pilot based at Temple Bruer Airfield and would like to be represented in this respect in the above consultation.

My address is [redacted]

In the last 12 months I have been active into or out of Temple Bruer Airfield 94 times. I would expect this to be more if it were not for Covid restrictions. I fly two aircraft, one which is transponder equipped and one which is not.

When Cranwell are active I always communicate with them on the RT from Temple Bruer and I believe that we have a good working relationship which reduces workload on both controller and pilot.

I rarely fly above FL50 and never above FL100

I would be frustrated to find that any proposal would extend so far as to encompass Temple Bruer airfield and could mean that both pilot and controller became subject to unnecessary interaction involving anything other than the usual efficient and effective radio call to Cranwell.

Thank you for the opportunity to share my concerns and for taking the time to consider these.

Best regards.

[redacted]

Archived: 09 January 2022 15:34:01
From: UASCDC-ACP
Sent: 17 December 2021 10:37:00
To: [redacted]
Subject: RE: UC The Airspace Change Manager
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 16 December 2021 13:31
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: The Airspace Change Manager

[redacted]

Cessna 120 G-AJJS

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Myself – as a local pilot and aircraft owner based at Temple Bruer and resident of Harmston village, under the flightpath to RAF Waddington
Address (including postcode if possible)	[redacted]

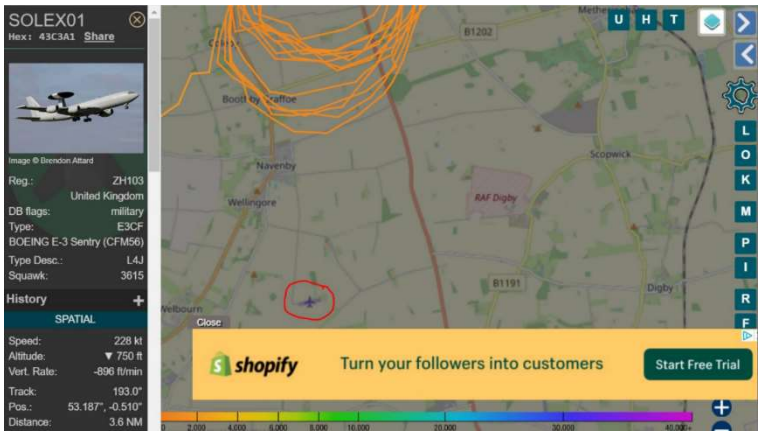
We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

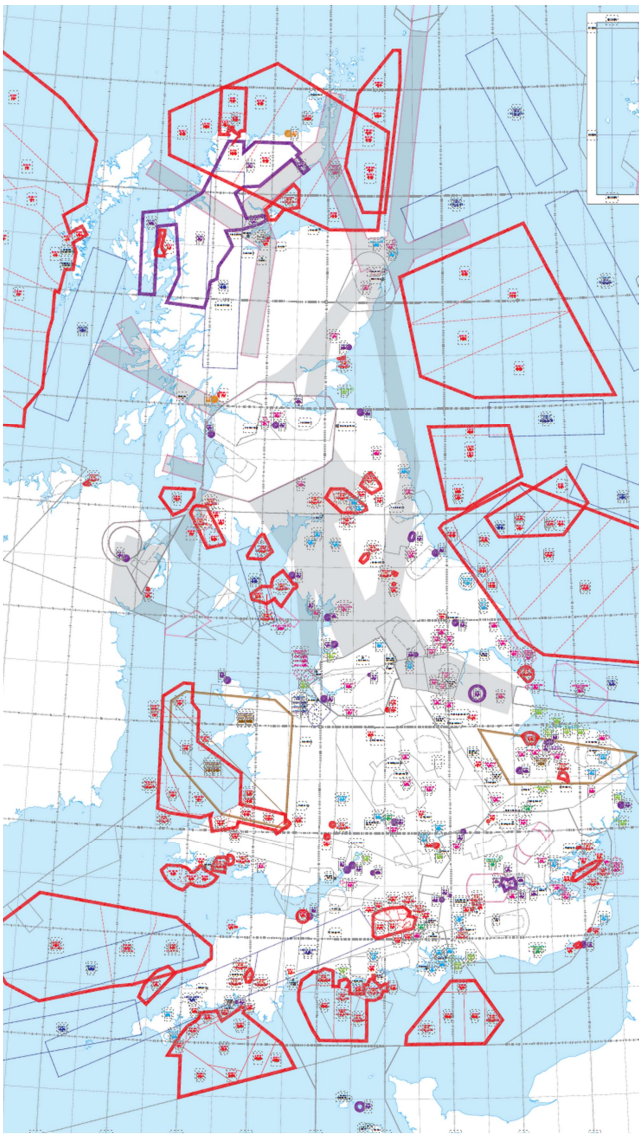
Yes.

The proposed airspace for Protector is unacceptable and, on the face of it, highly over-stated. For a system able to operate to a strict, highly accurate autonomous flight profile for take-off and landing, it is incomprehensible that its operational area needs to be beyond the current MATZ area for Waddington.

As a local resident, I am very familiar with the current E-3D flight profiles within the vicinity of Waddington and frequently view their flight track via commercially available apps (ADSB-exchange, FR 24 etc..) which all show, and support my own observations, of HAND-FLOWN circuit patterns WELL WITHIN Waddington MATZ. If the largest dimension, aircraft in current RAF service is capable of being flown within the MATZ, why should a considerably smaller, fully autonomous aircraft need a greater area ?



I now find myself, along with an urban population of 130,200, or greater metro population estimated at 189,000 (according to the estimates from 2016) living within what will be an active DANGER AREA… the only such area within the UK located over a highly populated city and environs.



With the exception of Salisbury Plain and specific areas of Northumberland and west Wales (both extremely sparsely populated) all UK Danger Areas are located on the coastline, with operations conducted over water.

The need to have a pilotless aircraft, which creates a Danger Area, based and operating over a highly populated city and associated towns/villages seems ill-advised and, frankly, un-necessary.

Protector has shown itself to be able to be operated remotely, why is there any need to have the aircraft physically based at Waddington ? Aberporth, Lossiemouth or Fleet Air Arm bases in the SW would seem far more suitable ‘operating’ locations, where clear and un-conflicted entry access into the higher-level air system is, surely, more suitable.

Airspace proposal options show Protector as requiring a 5.5nm range circuit pattern, hitherto un-necessary for any and all operations from Waddington, why should Protector require more ?

Further, an in-service in-ability to provide any kind of ‘self protection’, from a lack of ‘Detect-and-Avoid’ capability, surely its presence in the skies over the UK is even more in question.

RAFAT

Current operating area of R313 over Scampton is 5nm from the airfield reference point, why is there a need to increase this to 6nm, which would conflict with Temple Bruer operations ?

More importantly, the proposal to re-locate RAFAT to Waddington, and create a practice area above Waddington, is in direct conflict with the primary stated priority of the ACP, namely DP(a) - '*Provide a safe environment for airspace users including consideration of the risk to life of those on the ground during RAFAT display practices*'

Priority	Design Principle
1	DP(a) Provide a safe environment for airspace users *including consideration of the risk to life of those on the ground during RAFAT display practices*
2	DP(b) Provide access to sufficient area for both training and operational objectives
3	DP(c) Where possible and practicable, accommodate the emerging Airspace Modernisation Strategy DP(d) Minimise the impact to other airspace users
4	DP(e) Endeavour to make the airspace as accessible as possible DP(f) Use Flexible Use of Airspace (FUA) principles to manage the airspace as far as is practicable (Efficiency and Airspace Sharing)
5	DP(g) Use standard airspace structure where possible (Conformity, Simplicity and Safety)

Table 1 - ACP-2019-18 DPs following rationalisation with ACP-2018-72 DPs

Multiple jets, operating close to the ground, over an area of greater population density than they currently operate certainly does not adhere to this aim and would seem to be in direct conflict with the 'fall-out' from the Shoreham Airshow disaster.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).
Temple Bruer airfield is a very active airfield with 15 based aircraft and 20 pilots, who operate quite happily and successfully within the northern half of Cranwell MATZ with full co-operation and mutual understanding of operations with Cranwell, but is OUTSIDE of the Waddington MATZ. **Option 1** is the only favoured option, given that it does not cover Temple Bruer airfield. All other proposals cover Temple Bruer airfield and, therefore, will restrict, hitherto, un-restricted operations, which have been in place for 40 years. Our current operations do not impinge on Waddington, with departure and arrival routes remaining clear of Waddington MATZ, usually routing out and in via Fulbeck dis-used airfield to the SW. Communication with Cranwell Radar (124.45) is possible while still on the ground at Temple Bruer, so coordination with this unit for departures and arrivals is simple, routine and well established. All other options would require direct communication with Waddington to be able to operate from Temple Bruer. Currently, it is impossible to communicate with Waddington from aircraft on the ground at Temple Bruer, therefore, presumably, requiring cumbersome telephone communication with ATC to be allowed to fly from our own airfield – an airfield outside of Waddington's jurisdiction. Furthermore, return to Temple Bruer would, by definition, also require clearance. Waddington is well known to local pilots for its 'sporadic' and, often, non-existent LARS service, even when the ATSU is manned (resident military movements and Heli-Med flights received communication and a service but not local GA traffic that call. What guarantee would Temple Bruer residents have of there ALWAYS being ATC service for them during the time of operations ? If, when the Danger Area becomes active for RPAS missions, will it remain 'active' for the entirety of the RPAS's mission, meaning clearance must be received to enter the area ? Or, will ATC only be available for the time that the RPAS is in Waddington 'operating area' (take off and approach to land) ? **Option 2** will cover Temple Bruer, with Restricted Airspace/Danger Area to surface level, thereby creating considerable difficulty for operations at Temple Bruer, as well as increasing workload for all pilots and ATC when both are operational. Temple Bruer airfield is open all year, with no curtailment in flying activities save for the weather, and airspace changes that directly affect operations represent un-necessary restrictions on our freedom to fly in the open FIR. Some pilots/owners may decide the difficulties and restrictions too burdensome and re-locate to elsewhere or, at worst, cease flying altogether – quite the opposite of what Government Ministers would seem to want, when stating publicly that they wish to make the UK "the best Country in the world for GA".

Option 3 is an even more restrictive design. The MATZ 'stub' extensions (areas B and C) are in conflict with established and recognized MATZ stub extensions, which are set at 1,000AGL, effectively putting the need for an area in excess 6nm distance for Predator to turn base onto final for r/w 02.

If Predator's flight profile is not such that it cannot be operated within the standard 5nm MATZ, one must question either the accuracy of the PRAS flight system, the competency of the crew or the system not yet being fit to operate within UK airspace.

Option 4 unacceptable - as #3 above

Option 5 un-acceptable – even more so, it seems impossible to comprehend why there is the need to suggest an even greater airspace grab.

Option 6 un-acceptable - as #4 and #5above

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

Preferably, no change to current situation.

Certainly, NO MORE than 5nm from Waddington ARP, allowing free and un-fettered access from and to Temple Bruer

What is your biggest concern, if any, about this ACP?

Biggest concern is that Temple Bruer airfield, which has existed very well with associated military operations for 40 years, is no longer able to operate as it so does.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

YES – massively.

As a **pilot** and aircraft owner at Temple Bruer, innumerable restrictions, curtailment and inability of free access from/to Temple Bruer due to either/both/all of the airspace proposals.

As a **resident of Harmston village**, immediately south of Waddington, hugely increased danger from multiple fast-jet, and formation operations immediately in the vicinity and above my house.

Also, as a resident of the environs of Waddington, living in an UN-NECESSARY Danger Area, located above an area of high population, for no real, apparent, logical reason.

If you are a pilot do you routinely:

• Operate an airband radio?	Yes	No
• Operate a transponder?	Yes	No
• Speak to ATC?	Yes	No
• Fly above FL50?	Yes	No
• Fly above FL100?	Yes	No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 Frequently, at least 4 times a week in winter and often 10 or more times in spring to Autumn.
- Options 7 – 8 never

Any other feedback

Archived: 09 January 2022 13:36:50
From: UASCDC-ACP
Sent: 09 January 2022 13:35:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Sensitivity: Normal

Dear [redacted],

Happy New Year,

Apologies for the silence – the festive season got the better of me, I'm afraid.

I am busy collating all of the responses for the engagement submission to the CAA, but thought I should let you know that having informally spoken to the team that are developing procedures for Protector, we do not anticipate an issue with designing the medium level airspace options to avoid any impact on Skydive Langar's activity.

I will certainly be in touch with you again in early February this year as we move on to explore the best solution.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

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From: UASCDC-ACP
Sent: 17 December 2021 10:45
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear [redacted]

Thank you for your email. I am away at present but will respond early next week. I have been speaking with the MOD operators to see how best to accommodate your concerns.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]

Sent: 07 December 2021 16:19
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Re: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi [redacted]

Please see attached a rough annotation of the limits of our activity (in green). I don't want you to think this is some kind of "airspace grab" on our behalf. I've looked at a lot of our flight paths to collaborate where we are normally climbing and descending. It takes approximately 24.5 track miles for our aircraft to climb to altitude, which we do in a simple circuit type pattern, which typically is contained within the green shaded box. It takes less than 7 track miles for the aircraft to descend again, which is done in the vicinity of Langar.

As you can see, the proposed alternative Option 8 works OK for us, and would certainly be something more workable than the original proposal.

My mobile number is [redacted]

Kind regards

[redacted]

On Tue, 7 Dec 2021 at 15:39, UASCDC-ACP <UASCDC-ACP@qinetiq.com> wrote:

> Dear [redacted]
>
> I have reviewed the images you sent – very useful. Thank you for taking the trouble.
>
> Work is ongoing to determine whether we need to extend the airspace so far to the south as shown in Option 8 or, as we said in the engagement material, whether we could contain the Protector activity within Option 7. Whilst we wait for that work to be completed, I am keen to understand how much of Option 8 is troublesome to Langar's activity and whether it would help if we were able to either:
>
> - reshape the design or;
> - shift Option 8 in its entirety to the east by 5 nms or so (see attached image "alternative_option_8").
>
> On the attached image "option_8", would you be able to annotate the limits of Langar's activity? That would help as I can then take this into consideration when discussing the medium options with other stakeholders.
>
> Would you also confirm a telephone number I could catch you on if necessary?
>
> [redacted]
>
> ATM Specialist and ACP Manager
> Defence UAS Capability Development Centre
>
> [redacted]
> Email: UASCDC-ACP@qinetiq.com
>
> UAS CDC
>
> *Please consider the environment before printing this email.*
>
> **From:** UASCDC-ACP

Sent: 01 December 2021 20:05
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Thank you [redacted] – I am going to review in depth tomorrow. And I agree, we need to work together to find the best solution.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

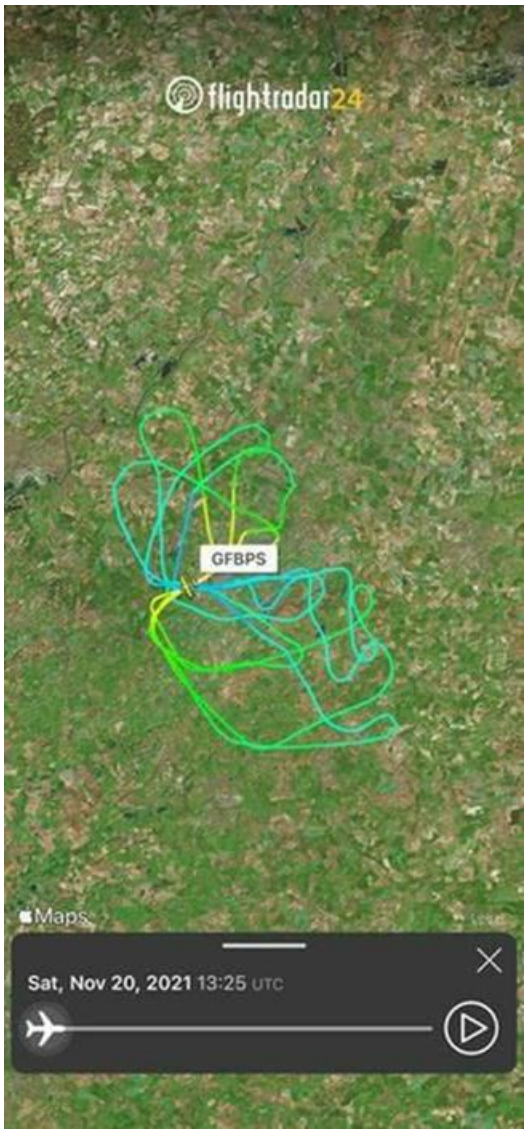

Please consider the environment before printing this email.

From: [redacted]
Sent: 30 November 2021 16:37
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Re: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi [redacted]

I have attached below some screen shots of the typical flight profiles that our aircraft make from Langar. With some notes to assist.

1) Here you can see our aircraft operating here in the block between ground level and FL140. The aircraft is flying to the west of the A1 Motorway but reaches as far north as Syerston and south as Saltby.



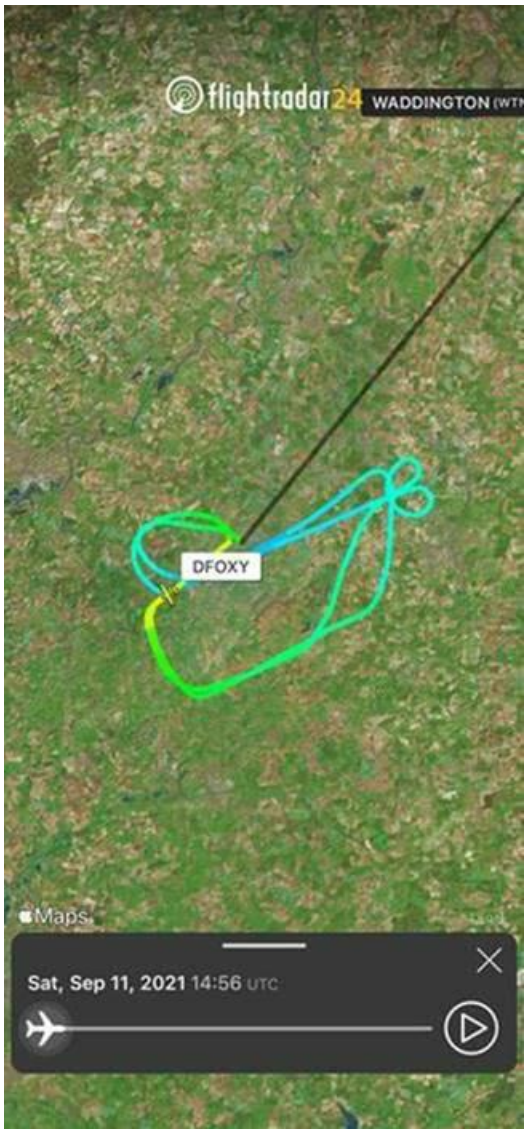
2) Here there is a Southwesterly wind at FL140, so the aircraft is climbing to the south of Langar initially and then positioning to make a run over the dropping zone at FL140, this run takes the aircraft over the Bottesford VRP and then towards the overhead of Langar.

3) Here there is a south wind at FL140, so the aircraft is departing with a turn out to the north and then positioning to make a run over the dropping zone from north to south at FL140, in this instance the aircraft reaches as far north as Southwell at 9500ft before turning southbound to Langar.

4) Here is a similar situation to before, again with the aircraft reaching between 9000-11000ft over Southwell before flying back through the Syerston overhead to Langar.

5) Here is another prevailing SE wind day, the aircraft is climbing to the North of Langar passing over Syerston and Long Bennington before making its jump-run over the dropping zone at FL140.

6) For reference this is the south pattern which we do also fly, this is with a westerly wind, but still the aircraft reaches approximately Long Bennington before making its jump run back over the dropping zone.



For noise abatement in the Vale of Belvoir, we alternate between North and South climbing patterns (this is per our agreement with the local parish councils). So I have tried to show you a good spread of different conditions, but I hope you can appreciate how tight it would be if Option 8 was to get approved.

Please don't hesitate to contact me if you would like to discuss this further. I am really keen to find a way to make this work for everyone.

[redacted]

On Tue, 30 Nov 2021 at 16:02, UASCDC-ACP <UASCDC-ACP@qinetiq.com> wrote:

> Dear [redacted]
>
> Thank you for your email and completed Feedback Response Form. Your comments are noted and the MOD can appreciate the potential impact of Option 8 on your activity. I am keen to learn what kind of profiles your aircraft fly in order to understand the extent of operation at Langar and how best to proceed in terms of airspace design. Are you able to provide me with this by email?

The telephone number on the Feedback form is incomplete, so I am unable to get in touch that way. I am happy to give you a call to discuss options, so could I ask you to provide me with the phone number an suitable time(s) to call? I am usually next to my mobile number below and will pick up if free anytime if you prefer to call me.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 27 November 2021 08:56
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Re: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Good Morning,

Please see attached response from British Parachute Schools Ltd t/a Skydive Langar

Kind regards

[redacted]

On Fri, 26 Nov 2021 at 20:29, Skydive Langar [redacted] wrote:

---------- Forwarded message ---------
From: **UASCDC-ACP** <UASCDC-ACP@qinetiq.com>
Date: Fri, 26 Nov 2021 at 15:13
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change

Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

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SKYDIVE LANGAR

Skydive Langar - First Time to Experienced - The UK's Skydiving Experts

The Control Tower, Langar Airfield, Nottinghamshire, NG13 9HY | Tel: +44 (0) 1949 860 878

British Parachute Schools Ltd | Registered in England & Wales: 01751995 | VAT Registration GB 416 1497 57

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ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	SKYDIVE LANCAR - BRITISH PARACHUTE SCHOOLS.
Address (including postcode if possible)	[redacted] LANCAR AIRFIELD NOTTINGHAMSHIRE NG13 9HY

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

ALL LOW OPTIONS HAVE NO IMPACT ON OUR OPERATION
OPTION 7 MEDIUM HAS NO IMPACT ON OUR OPERATION
OPTION 8 MEDIUM HAS A DRAMATIC IMPACT ON OUR OPERATION AT LANCAR AND WILL MAKE IT ALMOST UNWORKABLE.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

OPTION 8 MEDIUM

BRITISH PARACHUTE SCHOOLS OPERATES 3X TURBINE CESSNA CARAVAN AIRCRAFT. CLIMBING AT 1500fpm AND DESCENDING AT 6000fpm IN THE LINCOLNSHIRE AIAA WITHIN THE VICINITY OF LANCAR AIRFIELD.

OUR CLIMB AREA IS TO THE WEST OF THE A1 HIGHWAY. IN AN AREA BOUND BY NEWARK TO THE NORTH, GRANTHAM TO THE EAST AND MELTON TO THE SOUTH.
WE FLY UP TO 60 SORTIES PER DAY, CLIMBING TO FL150 FOR FREEFALL PARACHUTE DROPPING.

OPTION 8 MEDIUM WOULD RESTRICT OUR AIRCRAFT FROM BEING ABLE TO CLIMB TO DROPPING ALTITUDE AND MAKING A RUN-IN OVER THE DROPPING ZONE IN PREVAILING WIND CONDITIONS.

Feedback on preferred type(s) of segregated airspace to be implemented

(including order of preference and rationale, if appropriate).

WE SUPPORT ALL OPTIONS 1-7

OPTION 8 CANNOT BE SUPPORTED BY US.

What is your biggest concern, if any, about this ACP?

INABILITY FOR OUR AIRCRAFT TO CLIMB TO FL150 AND MAKE A RUN-IN OVER OUR DROPPING ZONE IN PREVAILING WIND CONDITIONS

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

I JUST DO NOT THINK OPTION 8 MEDIUM IS NECESSARY. IT SEEMS LIKE AN OVERZEALOUS AIRSPACE GRAB WHICH WILL NEGATIVELY AFFECT OTHER USERS OF THE AIAA. BRITISH PARACHUTE SCHOOLS HAS BEEN ESTABLISHED AT LANCAR AIRFIELD FOR 50 YEARS AND THIS IS THE BIGGEST OPERATIONAL THREAT WE HAVE ENCOUNTERED.

If you are a pilot do you routinely:

- Operate an airband radio? (Yes) / No
- Operate a transponder? (Yes) / No
- Speak to ATC? (Yes) / No
- Fly above FL50? (Yes) / No
- Fly above FL100? (Yes) / No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

• Options 1 – 6 • Options 7 - 8	NONE 7 – NONE 8 – UP TO 60 TIMES A DAY.
Any other feedback	

[redacted]

CHIEF PILOT / ACCOUNTABLE MANAGER.

BRITISH PARACHUTE SCHOOL
THE CONTROL TOWER
LANGAR AIRFIELD, LANGAR
NOTTINGHAMSHIRE NG13 9HY
PHONE & FAX 0115 949 860878

CLEETHORPES
DONCASTER
CTR D SFC-FL85
126.225 (6170)
DONCASTER SHEFFIELD 55
CTR D SFC-FL105
LINCOLNSHIRE CTA A FL105+
Messingham
NORTH MOOR
BLYTON
KIRTON-IN-LINDSEY
HIBALDSTOW
INTENSE PARACHUTING
VRP BRIGG
CTA A FL105+
CTA A FL125+
CUXWOLD
BINBROOK
LINCOLNSHIRE CTA A FL155+
LINCOLNSHIRE CTA A FL125+
HEMSWELL
VRP GAINSBOROUGH
STURGATE
Market Rasen
LUDFORD MAGNA
LOUTH
NORTH COATES
WALTHAM
Saltfleet
R313/9.5 Note 16
FALDINGWORTH
SCAMPTON
MATZ WADDINGTON 119.500
WICKENBY
GRANGE Fm
Welton
Saxilby
Wragby
Cadwell Park
STRUBBY
HALL Fm
BARNSLEY ASR
CTA A FL105+
WHINLEYS Fm
TMZ/RMZ
RETFORD HEADON
CTA E FL85-FL105
CTA D 2000'-FL60
CTA D 1500'-FL105
GAM 112.8 DME
DARLTON
VRP THORESBY LAKE
Cathedral
Skellingthorpe
LINCOLN
EISKERTON
BARDNEY
Bardney
BUCKNALL
Horncastle
NORTH SEA CTA
Woodhall Spa
LINCOLNSHIRE CTA A FL155+
WIGSLEY
OSSINGTON
GRASSTHORPE GRANGE
SOUTH HYKEHAM
WADDINGTON
Collingham
SWINDERBY
DIGBY
METHERINGHAM
CONINGSBY
EAST KIRKBY
Billinghay
Stickney
CAUNTON
LINCOLNSHIRE AIAA SFC-FL130
WADDINGTON LARS 119.500
CONINGSBY LARS 119.200
RECTORY Fm
WINTHORPE
NEWARK-ON-TRENT
INTENSE AERIAL ACTIVITY
Southwell
OXTON
Ravenshead
MANSFIELD
Market Warsop
Ollerton
CRANWELL NORTH
TEMPLE BRUER
CRANWELL
Ruskington
MATZ 124.450
Heckington
Sibsey
numerous ditches
53°N
Old Leake
BOSTON HELI
BOSTON
FULBECK
HOUGHAM
FOSTON
Sleaford
BARKSTON HEATH
Belton
NEWTON
Bingham
BOTTESFORD
Belvoir Castle
NOTTINGHAM
MIDLAND CTA
INTENSE PARACHUTING
GRANTHAM
SPITALGATE
LINCOLNSHIRE AIAA SFC-FL130
WADDINGTON LARS 119.500
CONINGSBY LARS 119.200
POINTON
SEMPRINGHAM FEN
FOLKINGHAM
KIRTON
Donington
Sutterton
Gosberton
LINCOLNSHIRE AIAA SFC-FL130
Pinchbeck
SPALDING
Holbeach
LONG SUTTON
FENLAND
Bourne
NORTH WITHAM
Melton Mowbray
Keyworth
NOTTINGHAM HELI
CTA D 1500'-FL105
134.180
WYMESWOLD

CLEETHORPES
DONCASTER
DONCASTER SHEFFIELD
LINCOLNSHIRE CTA
FL105+
Messingham
NORTH MOOR
HIBALDSTOW
INTENSE PARACHUTING
KIRTON-IN-LINDSEY
BLYTON
GAINSBOROUGH
STURGATE
HEMSWELL
FL125+
CUXWOLD
BINBROOK
WALTHAM
NORTH COATES
Market Rasen
LUDFORD MAGNA
LOUTH
R313/9.5
Note 16
SCAMPTON
MATZ
WADDINGTON
119.500
Welton
Saxilby
FALDINGWORTH
WICKENBY
GRANGE Fm
16
Wragby
Cadwell Park
HALL Fm
STRUBBY
EISKERTON
BARDNEY
Bardney
BUCKNALL
Horncastle
NORTH SEA CTA
LINCOLN
Skellingthorpe
WIGSLEY
WADDINGTON
SOUTH HYKEHAM
Collingham
SWINDERBY
DIGBY
METHERINGHAM
LINCOLNSHIRE CTA
Woodhall Spa
CONINGSBY
EAST KIRKBY
Stickney
Sibsey
numerous ditches
53°N
BOSTON-HELI
BOSTON
WINTHORPE
NEWARK-ON-TRENT
TEMPLE BRUER
CRANWELL NORTH
CRANWELL
FULBECK
HOUGHAM
Ruskington
Heckington
Sleaford
FOSTON
BARKSTON HEATH
GRANTHAM
SPITALGATE
LINCOLNSHIRE AIAA
SFC-FL130
WADDINGTON LARS 119.500
CONINGSBY LARS 119.200
KIRTON
Donington
Sutterton
Gosberton
SEMPRINGHAM FEN
FOLKINGHAM
LINCOLNSHIRE AIAA SFC-FL130
Pinchbeck
SPALDING
Holbeach
LONG SUTTON
Bourne
NORTH WITHAM
FENLAND
NOTTINGHAM
NEWTON
Bingham
BOTTESFORD
Belvoir Castle
LANGAR
INTENSE PARACHUTING
EAST MIDLANDS LARS
Melton Mowbray
OSSINGTON
CAUNTON
GRASSTHORPE GRANGE
MANSFIELD
LINCOLNSHIRE AIAA
SFC-FL130
Ravenshead
Southwell
OXTON
Ollerton
Market Warsop
RETFORD
Tuxford
THORESBY LAKE
WHINLEYS Fm
DANESHILL LAKES
NOTTINGHAM HELI
WYMESWOLD
Keyworth

Archived: 09 January 2022 16:25:28
From: UASCDC-ACP
Sent: 09 January 2022 16:24:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form
Sensitivity: Normal

Dea[redacted]

Thank you for your email. Your comments have been noted and will be taken forward for consideration by the MOD as it continues the airspace design phase.

I will just pick up on a few point here though which might help clarify the MOD's position (in part, at least):

1. The DPs for the Protector ACP were agreed in January 2021 through engagement with the aviation stakeholder community. The DP prioritisation fell out of that original activity. However, access for other airspace users to any airspace implemented by the MOD remains a key consideration regardless of how the DPs are prioritised.

2. Regarding the change sponsor's position regarding the DP at para 7.4, ("The design must consider sensitive areas. Specific sensitive areas for military aircraft will be determined through consultation. Examples may include, but not be limited to: hospitals, industrial hazards and equestrian facilities") the Change Sponsor is not intending to ignore the potential impact on sensitive areas, but as stated in the letter MOD feels that its obligation through the CAP1616 process is to assess how the RAFAT activity might affect civil airspace users which might, in turn, affect sensitive areas and not the direct impact of the military activity. Through the next stage of the ACP (Consultation) we will certainly make an assessment of the impact that the implementation of any airspace may have on other airspace users and the knock-on effect on sensitive areas. But we do not feel it should be included as a design principle relating to the actual military activity directly.

3. Should a danger area be implemented, it would not be permanently active; it would only be activated when Protector or RAFAT flying is due to take place. Proven procedures would be adopted to ensure that the airspace is activated and notified as and when required. This would involve appropriate NOTAM action being taken at least 24hrs in advance. To ensure minimum disruption to other airspace users a Danger Area Crossing Service (DACS) would be offered. This means that, even if the airspace has been notified as being active, it may be possible for both civil and military aircraft to transit through it under a clearance from ATC. It is anticipated that the appropriate military ATC will be manned at all times during any danger area activation.

I will keep you advised of progress through the next phases of the ACP,

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 17 December 2021 13:35
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form

Good afternoon

Please find enclosed a Stakeholder Feedback Response Form for ACP-2019-18 - Stage 2.

Please feel free to contact me for clarification if needed.

Regards

[redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Self – Local Pilot
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

Overall, the ACP document appears well written and considered of the options and constraints.

However:

- Impact on other airspace users does not appear to be adequately considered.
    - DP(d) & DP(e) should be prioritised higher and use more definitive language to protect other airspace users. Stronger language and more engagement would result in wider support for the ACP within the aviation community rather that objections.

    - Design Principles 7.4 should not be excluded from the ACP. Whenever there is a change to airspace it has a knock-on effect. In this instance it will force more traffic away from Waddington rather than higher transit overhead. This will exacerbate existing choke points near Gainsborough and Grantham. Impacting aviators and those on the ground. It is negligent to exclude this consideration from the ACP. (see last page)

    - The real-world availability of ATC services in the Waddington area already effectively deny the airspace to many users, forcing them to make extensive detours and creating choke points around existing airspace.
        - R313 forces northerly detours
        - Gliding at Cranwell stops overflight thus forces southerly detours
        - Current Waddington ATZ/MATZ allows overflight between these two obstacles even when ATC is unmanned
        - Weekend availability of Waddington ATC is nil
        - Weekday availability of Waddington ATC is massively impacted by the restricted SOP of Grob training from Cranwell & Barkston Heath.

      Significant impact on other airspace users will be felt from increased airspace and activity at Waddington without concordant increase in ATC.

- Erroneous reasoning is given for discarding Class C & D airspace in favour of a Danger Area
    - DA is more restrictive than Class C or D
    - Class C or D can still be notified as active
    - DA will require a Danger Area Crossing Service present at all times it is active – unless the intent is to deny access to the airspace when active – resulting in the same need for ATC resources as Class C or D

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Airspace options presented appear sensible and considered.

In my opinion, minimizing denied airspace and simplicity of airspace design should be the preferred options within the ACP.

Use of a permanently active Danger Area would appear to be punitive to other airspace users. A Notified Danger Area is a proportionate use of airspace as long a Danger Area Crossing service is provided during notified hours, and R313/Scampton MATZ complex is removed.

Order preference;

- Options 1 – 6
    - 6
    - 5
    - 4
    - 3
    - 2
    - 1
- Options 7 – 8
    - 7
    - 8

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

1. Class D airspace aligned to Option 6 & 7 to minimize denied airspace.

2. Class C airspace aligned to Option 6 & 7 to minimize denied airspace.

3. Notified Danger Area aligned to Option 6 & 7 to minimize denied airspace.
    a. Requires fair access to airspace and accessible Danger Area Crossing Service available during notified hours.

What is your biggest concern, if any, about this ACP?

The establishment of a new Danger area complex without the removal of R313/Scampton MATZ complex. This would lead to the denial of an additional large volume of open airspace that is used regularly by a wide number of stakeholders. Airfields at Sturgate, Wickenby, and Temple Bruer will be particularly impacted.

Aviation choke points will experience additional GA traffic that will make transiting Lincolnshire airspace more dangerous. This will be acute at Gainsborough and Grantham where there is already significant military traffic from Cranwell & Barkston Heath.

Currently it is difficult to transit the Waddington area due to the hours ATC is available. This effectively makes a large part of Lincolnshire denied airspace as aviators will avoid the area because of the merest hint of potential litigation. Adding a new DA, without removing R313/Scampton MATZ complex, will exacerbate this.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

The proposal is predicated on removal of R313/Scampton MATZ complex would and notified operation of a new Danger Area complex. As long as both of these occur the proposal would not unduly impact my aviation activities in the area.

However, the operational tempo may make the new DA effectively permanent and R313 may remain. If this was to occur then the ACP would negatively impact my aviation activities in the area.

If you are a pilot do you routinely:

- Operate an airband radio? Yes ~~No~~
- Operate a transponder? Yes ~~No~~
- Speak to ATC? Yes ~~No~~
- Fly above FL50? Yes ~~No~~
- Fly above FL100? ~~Yes~~ No

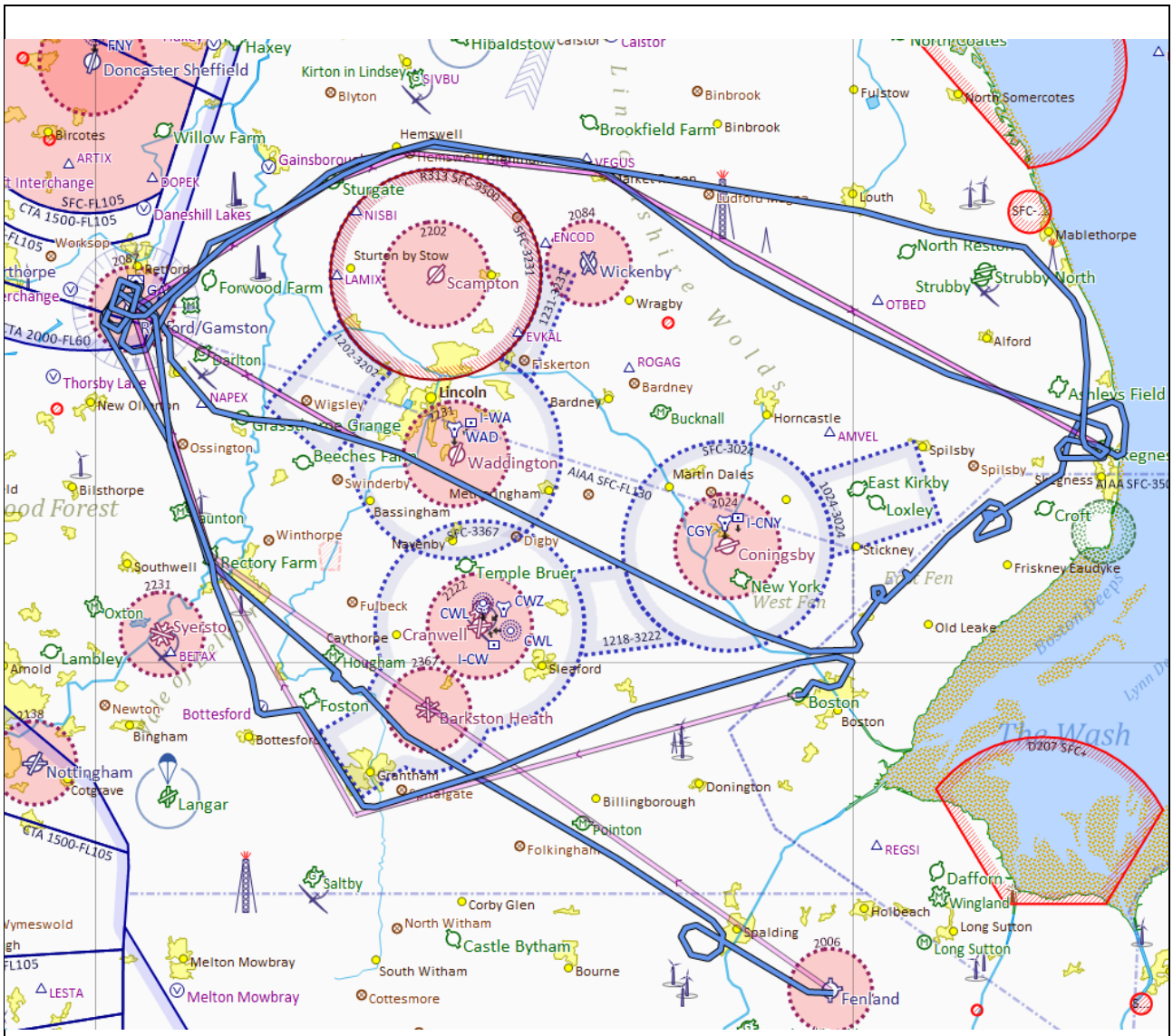
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6
- Options 7 – 8

Options 1 – 6 : twice per month on average

Options 7 – 8 : twice per year up to 12,000 feet

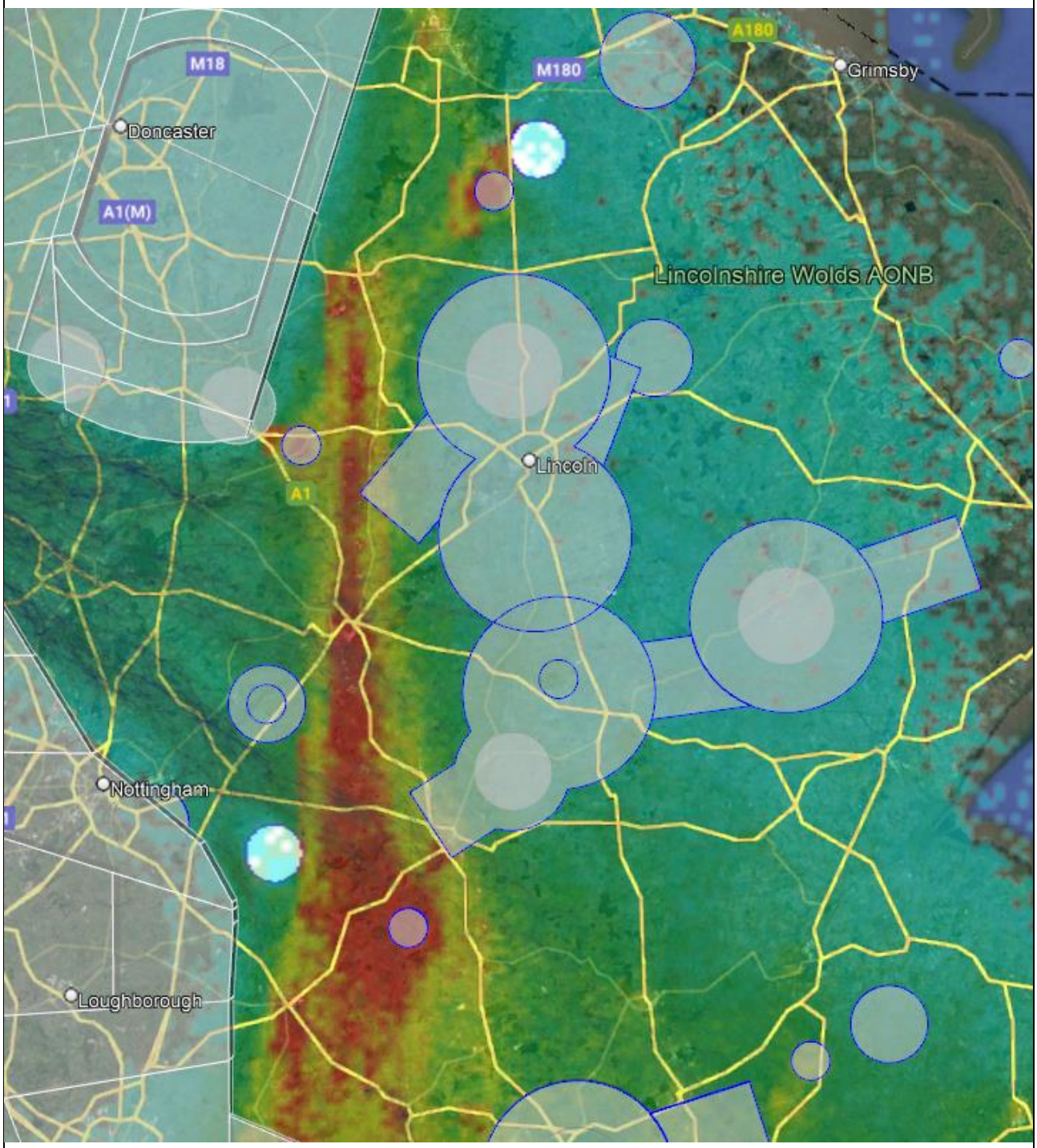
The map below shows typical examples of **my** detoured flights due to airspace design;



Any other feedback

The map below shows a heatmap of aviation activity assembled by FASVIG. This represents just Gliding, Hand-gliding and Paragliding activity in 2018. The impact of airspace design can be easily seen on this map.

The removal of R313/Scampton Matz complex would have a beneficial effect on airspace safety by partially alleviating the ‘Gainsborough’ choke point.



Archived: 09 January 2022 14:22:02
From: UASCDC-ACP
Sent: 17 December 2021 10:40:00
To: [redacted]
Subject: RE: UC Waddington Airspace
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

-----Original Message-----
From: [redacted]
Sent: 14 December 2021 10:38
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Waddington Airspace

Please find attached comments as requested.
[redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	[redacted] Local Pilot
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

Not enough thought has been given to the great increase in traffic both GA, Red Arrows, normal Waddington aerial activity and pilotless aircraft in the area. Cranwell with it's activities are not that far away.

The prospect of a low level aerobatics over a crowded city. The chance of a mishap in the air causing serious hazards to life and property on the ground as has been demonstrated in quite a number of instances.

Distraction of road users in a very densely populated area increasing the chances of road accidents.

I live within the 313 area and the Reds on their low level runs do cause distraction.

I would recommend that the Reds should remain in their current 313 area.which is a reasonable compramise

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

What is your biggest concern, if any, about this ACP?

Access to and from Temple Bruer is via 26 or 08 and has been operated for many years successfully having been quite acceptable to both Waddington and Cranwell.

Any option other than 1 which allows the current access to Temple Bruer via 26 and 08 runways would be totally unacceptable. Further more, the problem with the low approach pattern of the Protector's 5.5 nm downwind leg would create a very hazardous situation both at Temple Bruer and Cranwell

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?
If you are a pilot do you routinely: Operate an airband radio? Yes • Operate a transponder? Yes • Speak to ATC? Yes • Fly above FL50? yes • Fly above FL100? No
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? • Options Winter 2X per week Summer 4X per week • Options 7 - 8
Any other feedback

Archived: 09 January 2022 15:04:00
From: UASCDC-ACP
Sent: 09 January 2022 15:02:00
To: [redacted]
Subject: RE: UC ACP-2019-18 Enabling RPAS and RAF Aerobatic Team Operations Out of RAF Waddington
Sensitivity: Normal

Dear [redacted]

Thank you for your email. I appreciate your concern regarding removal of Class G airspace. It is not the intention of the MOD to remove Class G; in fact our preferred solution is to maintain Class G airspace, but we have offered other options (e.g. the implementation of Class D airspace) for comment by stakeholders like yourself.

As mentioned in the engagement letter (para 2.1):

> The Military Aviation Authority Regulatory Article (RA) 2320 – *MAA regulation for operation of military RPAS* states the criteria for beyond visual line of sight (BVLOS) 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.

In addition civil regulation is quite clear. CAA guidance for unmanned air system (UAS) operations in UK airspace is set out in CAP 722, which states the criteria for beyond visual line of sight (BVLOS) RPAS operation. One of the requirements is the presence of a DAA capability that has been accepted as at least equivalent to the ability of pilot see and avoid, and ensures compliance with the Rules of the Air (see CAP722 v8, 1.2.3.1.)

As explained in the engagement letter, Protector will only have a limited DAA capability only (para 2.2). The MOD is keen to find the best solution for the integration of Protector into the UK airspace with the minimum impact on other airspace users. I will keep you advised of progress.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 10 December 2021 08:22
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: Airspace.Policy@caa.co.uk; Stephen.Hillier@caa.co.uk
Subject: RE: UC ACP-2019-18 Enabling RPAS and RAF Aerobatic Team Operations Out of RAF Waddington

Thank you [redacted],

I can find no civil regulation that obliges the removal of class G airspace or the establishment of a Danger Area for RPAS or Red Arrows operation.

If there is an MOD regulation then that is a n internal matter which must be dealt with inside of the vast tracts of airspace

currently reserved solely for your exclusive use.

Please identify the regulation.

The application must be withdrawn as there is no justification for taking away even more class G airspace. Class G airspace is provided for all airspace users and we welcome all users into our integrated environment.

The MOD is accountable to the Great British taxpayer who funds its operation

[redacted]

-------- Original message --------
From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Date: 07/12/2021 16:59 (GMT+00:00)
To: [redacted]
Subject: RE: UC ACP-2019-18 Enabling RPAS and RAF Aerobatic Team Operations Out of RAF Waddington

Dear [redacted]

Thank you for your email. The MOD notes your objection to the use of segregated airspace for the Protector and RAFAT activities. However, current regulation does state that some form of segregation is required for the BVLOS operation of a remotely piloted air vehicle without an acceptable detect and avoid capability.

The intention of the engagement material is to obtain feedback and comment on the 8 airspace design options presented and to identify the impact on other airspace users including their preferences regarding the options. If you have any specific feedback regarding the options, the MOD would be pleased to receive it.

Regards,

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 05 December 2021 19:26
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>; Airspace.Policy@caa.co.uk
Cc: [redacted]
Subject: ACP-2019-18 Enabling RPAS and RAF Aerobatic Team Operations Out of RAF Waddington

[redacted]

Dear Sir

I am a member of General Aviation, who is keen to ensure that class G airspace remains open to all classes of air traffic.

I have a letter from Sir Stephen Hillier advising me that TDA's are "not the first option" when introducing RPVs into class G airspace.

On his recommendation, I submitted the attached proposal to the CAA's innovation team in March 2020 which received a positive response in July 2020.

General Aviation is committed to integration not segregation when it comes to utilising class G airspace. The provision of the segregated airspace which this application requires clearly fails to embrace the principal of ,"airspace for all!"

It is almost beyond belief that RAF display teams require additional segregated airspace. Look at all of the CAA charts for England Scotland Wales and Northern Ireland and the MOD already enjoys a vast array of its own segregated airspace. Civil aerobatic display teams do not enjoy segregated airspace in which to build up their routines (think the Blades). All develop their skills by careful management of their use of class G airspace with other airspace users. In the end, these displays are not conducted at the place where they are practiced.
Class G airspace is a precious resource for all aviators.

Please include me in the public consultation for this application at which point you will find a spirited defence of GA's freedom to fly in class G airspace.

Yours faithfully

[redacted]

This email and any attachments to it may be confidential and are intended solely for the use of the individual to whom it is addressed. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error. QinetiQ retains personal data relating to our customers and partners for the purposes of conducting a business relationship, communicating and marketing to them as well as to providing invitations to upcoming events. Please see our Privacy Notice for further information. In accordance with our Privacy Notice, you have the right to withdraw your consent at any time. QinetiQ may monitor email traffic data and also the content of email for the purposes of security. QinetiQ Limited (Registered in England & Wales: Company Number: 3796233) Registered office: Cody Technology Park, Ively Road, Farnborough, Hampshire, GU14 0LX https://www.qinetiq.com

Title	Drone Integration into UK airspace
Issue	Draft A
Date	7th March 2021
Author	[redacted]

Abbreviations

UAV Unmanned aerial vehicle

BVLOS Beyond Visual Line of Sight

MD manoeuvring distance

LOS Line of Sight

VFR Visual Flight Rules

IFR Instrument Flight Rules

VLOS Visual Line of Sight

EC Electronic Conspicuity

BAU Business as usual

Introduction

This document sets out a series of practical trials that demonstrate the safe operation of commercial UAVs (drones) both in visual LOS and BVLOS in class G airspace. These trials advocate the Integration of UAVs into existing airspace without segregation.

Problem definition

UAVs undertake a flight cycle that is the same as other airspace users. Whilst flight in a conventional aircraft may be conducted entirely detached from air traffic units (and under full automation), commercial drone operations introduce the added complication of the pilot being detached from the aircraft.

In much the same way that automation has grown to be the norm in the aviation industry, so this problem is one of gaining confidence in remote systems and the integration of a different aircraft type into existing airspace.

Solution Overview

This proposal sets out 3 trial phases. The first phase uses a high density of observers to verify that a UAV is being flown to a satisfactory standard both Visual LOS and BVLOS with hazards introduced at predetermined intervals. The second phase uses observers at key points to record that a UAV is being flown to a satisfactory standard BVLOS and when hazards are introduced randomly. The third phase builds up statistics on BAU operations and the procedures needed to keep the operation safe.

Non segregated flight trials

Appendix A is an analysis of UAV phases of flight, and is remarkably similar to standard Visual Flight phases in General Aviation aircraft. It argues how UAVs currently operate within class G airspace, without being segregated. Only one part of the UAV flight envelope demands closer attention, and CAP1861 (4) sets out the hazards that UAVs in BVLOS must cope with. Collaboration between airspace users will be put in place as shown in Appendix A.

The UAV operator will offer their technical solution, and the trial environment will verify its correct operation and safety. The UAV operator may carry a payload at their discretion and the trial can be set to deliver the payload to a predetermined destination, the UAV operator is responsible for managing the payload in the event that the mission is aborted. Observers will be used to maintain safe operation.

Appendix B argues the case for 3 safety zones extending progressively out from and managed through the UAV. The UAV will be configured to escalate any threat either automatically or under direct control of the UAV handling pilot. The UAV handing pilot is always alerted to any action. Appendix B argues how the safety zone should be calculated together with the criteria for action. The objective of these trials is that the UAV operator shows that its service can be operated safely and consistently.

Trial plan

Overview

Trials will be conducted in non-segregated class G airspace in collaboration with existing airspace users. It will be conducted in three phases, each progressively relaxing the constraints on the UAV operator. Each phase will consist of 100 missions and at the end of each phase the UAV will demonstrate

1. 100% Successful detection of all hazards in CAP 1861 whilst containing the position of the hazard outside of its primary safety zone. These include: -
    a. Terrain and obstacles
    b. Meteorological conditions
    c. Conflicting traffic; whether wearing EC or not.
    d. Ground operations
    e. Other airborne hazards (e g. Geese balloons etc)
    f. Emergencies
2. 100% Successful detection of hazards crossing into its secondary safety zone, with an alert generated to record a potential conflict.
3. 100% Successful detection of hazards crossing into its tertiary safety zone.

A UAV operator flying 4 successful missions a day will complete each phase in one calendar month.

Observers

Observer. *A person or automated machine at a geographic location that is capable of: -*

1. *Judging whether a UAV is operating in an unsafe manner against standard criteria.*

2. *Aborting a UAV mission either automatically or by direct communication with the Drone (UAV) pilot in command*
3. *Recording the mission characteristics of the UAV*

Observers are responsible for ensuring that UAVs are flown safely and consistently.

Blueprinting

In order to maintain consistency throughout the trials, the UAV operator will record the serial numbers of each system component together with its software and firmware versions logged against the UAV airframe. The UAV operator is responsible for declaring any change in the blueprint of its trial drone, together with the impact. In the event that a UAV operator doesn't comply with this blueprint strategy then those missions extending back to a previous declaration (or the start of the phase) will be treated as if they had been aborted.

Aborted mission

A mission can be aborted by an observer, the UAV, the UAV pilot or under the instruction of the UAV operator,

A mission that is aborted either will cause the UAV to land immediately, or returned to base only if the UAV is fit to fly. Aborted missions will not count towards the final total of successful missions in a specific phase. A strategy for the deployment of observers is given in Appendix C.

Phase 1 Highest level of observation

In this phase missions will be planned with the UAV operator in an environment with a higher density of observers across the published route. In collaboration with other airspace users the operator may vary its published route to conduct hazard testing. These missions will be fully planned.

Phase 2 Lower level of observation

Whereas Phase 1 is a planned exercise of hazard detection, phase 2 introduces randomness into the operation. The Introduction of a hazard will be at the discretion of the trial organiser who may request a change in route or introduce conflicting traffic without notice. The trial organiser will ensure sufficient observers are present at points of interest. No member of the UAV operation will be advised of the event in advance.

Phase 3 lowest level of observation

In this phase the UAV will be operated in its commercial mode and the trial will focus on identifying that an appropriate level of safety is present in day-to-day use.

Serendipitous events will be exploited and occasional hazard interceptions planned. This phase tests and builds the knowledge of the operational fitness of the unit and its readiness for service.

Appendix A Flight phase analysis

By examining each of the phases of UAV flight we can analyse each of the phases of flight

Arrival and Departure

These flight phases have been combined since they evoke the same challenge. Commercial operations are conducted from either an existing aerodrome or airfield, or from a new operational site. The only issue is how this new type of aircraft can be integrated.

Aerodromes and airfields

Aircraft of all types have always been integrated in different ways at these sites. Microlights, ultralight, light aircraft, heavy aircraft, gliders, commercial aircraft, helicopters, model aircraft, military aircraft, parachutists and even seagulls are amongst the types of flying objects that have coexistence on airfields that I have been resident on.

I learned to fly at a site where gliders and light aircraft landed on a licenced strip using parallel grass runways without incident. At the very most a local procedure may be recorded to recognise the different capabilities of each type without the imposition of special airspace.

Dedicated operational sites

Dedicated operational site have always been around for gliding, microlights and even grass stripes for light aircraft. They are marked on the chart, pilots flying in their local area inform themselves of the risks involved and factor that in.

Summary

I see nothing new in drone operations. We do have incidents, in parts of the airspace at the moment, but as objects as small as a bird are being coped with, UAVs will be accommodated, at the most, by local flying procedures.

En route visual flight operation

Within LOS of the Drone Handling pilot, this phase UAV of flight is at present conducted within the limits of the rules of the air and under Visual Flight Rules (VFR).

Visual Line of Sight (VLOS) (3) Flights are at present permitted without further restriction.

En route BVLOS operations

BVLOS is the only part of the flight envelope that is a new concept. Whilst it feels akin to IFR operations UAV operators seek the freedom of Visual Flight in this part of the flight profile. The trials supporting this proposal has a primary focus on this part of the flight envelope to demonstrate safe operation.

Emergencies

A second objective of this proposal is to ensure that a UAV can demonstrate safe operation in an emergency.

Appendix B Safety Zone

The KISS principle (1) can help in an effort to set simple rules for a safety zone.

An aircraft is moving at a certain velocity and it takes a time to manoeuvre out of the way of an obstacle or another moving aircraft. In aviation, pilots and controllers use the concept of a standard rate turn, also known as a rate 1 turn, on instrument approaches. This concept is convenient in setting a safety zone: -

1. Provides a worst case for manoeuvrability. The aircraft may improve on this principle metric.
2. Familiar to existing airspace users
3. Looks forward to a time when UAVs may operate in controlled airspace.

Taking a rule of thumb that the UAV will move through 90 degrees to avoid an obstacle or other moving object then a safety zone can be defined as the distance travelled in the time the UAV executes a rate 1 turn through 90 degrees. This caters for the situation where the UAV cannot turn and continues in a straight line. The concept can be extended to provide concentric levels of safety. The manoeuvring distance (MD) extends in all dimensions.

Distance	Level of safety	Outcome
1x MD – primary safety	Unsafe	Risk of collision
2x MD – secondary safety	Warning	UAV must detect, record and arm for manoeuvre
3x MD – tertiary safety	Observable event	UAV must detect and record the threat

Example:

For a UAV travelling at 70 knots the manoeuvring distance over 90 degrees.

1 knot = 6076.12 ft travelled in 1 hour

Std rate turn over 90 degrees takes 30 seconds (by definition)

manoeuvring distance = 70 x 6076.12 ÷ 60 ÷ 2 = 3544 ft or

Around a 1200 yard primary safety zone (0.7 miles)

Around a 2400 yard secondary safety zone (1.4 miles)

Around a 3600 yard tertiary safety zone (2.1 miles)

Appendix C Observer density strategy

Observers are placed along the UAV published route to verify and validate the behaviour of the UAV, and where necessary to activate the abort process. Observers provide assurance that UAVs are being operated in a safe manner.

In early phase 1 trials observers will be placed at intervals along the route at between 5-10 km spacing (2.5km LOS being an average capacity for an eye on a poor day and 5km on a clear day). Automated observers may have a greater range but their performance and

abilities will need to be assessed. Additional observers will be necessary at the points of hazard conflict.

In phase 2, assuming sufficient confidence has been arrived at in the en route transit of a UAV then observers will only be placed at points of hazard conflict.

Definitions

Observer. *A person or automated machine at a geographic location that observes tre operation of a subject UAV -*

Drone (UAV) pilot in command. *A licenced person who is responsible for the safe operation of the UAV. The drone may or may not be the handling pilot. This person must check that the handling pilot has determined that the drone is fit to fly,*

Drone (UAV) handling pilot. *A licenced person who is responsible for managing the UAV in all phases of its flight either directly or by automated systems. This person must check at each flight that the drone is fit to fly,*

Drone *operator. A person or organisation licensed to organise and conduct commercial drone operations.*

Drone maintainer. *A licenced person responsible for the build state, and maintenance state of the UAV. The drone maintainer signs off the drone as fit to fly.*

References

1. KISS principle https://en.m.wikipedia.org/wiki/KISS_principle
2. Standard rate turn https://en.m.wikipedia.org/wiki/Standard_rate_turn
3. Visual Line of Sight https://www.caa.co.uk/Consumers/Unmanned-aircraft/Our-role/An-introduction-to-unmanned-aircraft-systems/
4. CAP1861 Beyond Visual Line of Sight in Non-Segregated Airspace https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=9294

Archived: 09 January 2022 16:03:59
From: [redacted]
Sent: 17 December 2021 10:57:28
To: UASCDC-ACP
Subject: Re: UC Airspace feedback
Sensitivity: Normal

Thanks [redacted]

Appreciate the response.

Rgds
[redacted]

[redacted]

On 17 Dec 2021, at 10:41, UASCDC-ACP <UASCDC-ACP@qinetiq.com> wrote:

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 11 December 2021 21:31
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Airspace feedback

Good evening

Please find my comments regarding ACP – 19-18 ADO on the feedback from provided.

Rgds
[redacted]

Temple Bruer [redacted]

This email and any attachments to it may be confidential and are intended solely for the use of the individual to whom it is addressed. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error. QinetiQ retains personal data relating to our customers and partners for the purposes of conducting a business relationship, communicating and marketing to them as well as to providing invitations to upcoming events. Please see our Privacy Notice for further information. In accordance with our Privacy Notice, you have the right to withdraw your consent at any time. QinetiQ may monitor email traffic data and also the content of email for the purposes of security. QinetiQ Limited (Registered in England & Wales: Company Number: 3796233) Registered office: Cody Technology Park, Ively Road, Farnborough, Hampshire, GU14 0LX https://www.qinetiq.com

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Myself as Temple Bruer Airfield owner and other Temple Bruer based Pilots
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

DP(a) – The risk to those on the ground would appear to be substantially increased by the decision to propose RAFAT training over an area with a significant population living in an ever expanding urban sprawl.

DP(d) – The enormously extended ATLC pattern for Protector when compared to SkyGuardian operations seen in Aug/Sept 2021, forces the extension of the proposed Danger Area such that the impact on other airspace users is anything but minimized.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Option 1 Low is the only design that minimizes impact on Temple Bruer operations and is therefore the only preferred option.

All other Options are larger or more complicated than the apparently acceptable TDA established for SkyGuardian trials in Aug/Sept 2021.

All options other than 1 will disrupt activities at Temple Bruer significantly and will necessitate considerable communication with Waddington ATC via telephone before flight, increasing workload and meaning we can't fly if no - one picks up.

Since direct RT between Waddington and aircraft on the ground at Temple Bruer is not possible, the workload on Controllers will be further increased by the need for pre flight telephone conversations.

Medium Design Options 7 and 8 are of no direct concern personally as the types of aircraft operating at Temple Bruer would rarely, if ever, operate above 9500ft AML.

Feedback on preferred type(s) of segregated airspace to be implemented

(including order of preference and rationale, if appropriate).

My preference is Option 1 Low and for the operating parameters of Protector to be revised to enable operation within the 5nm circle proposed.

The current description of the Protector ATLC pattern indicates an unreasonably lengthened circuit especially when compared to those routinely flown by very large aircraft at Waddington. Even at 5nm on a base leg it should be at 1500'

I believe to minimize the impact of this ACP, the discussions between RAF and the manufacturers to revise the ATLC should be given top priority and made more realistic for UK Airspace usage

Any of the 6nm circle options in addition to impacting Temple Bruer will impact on Cranwell North Gliding and GA traffic routing between Waddington and Cranwell. The more 'pinched' such routes become, the greater is the risk of collision or infringement.

What is your biggest concern, if any, about this ACP?

My biggest concern is the impact on Temple Bruer Airfield and its 15 based aircraft users. I have recently purchased the Airfield, have full planning permission, pay business rates and restrictions on its use would have serious financial implications for me.

At the very least the Proposed DA will add another layer of control and potential disruption to our operations. If operations are restricted or result in special procedures, there is an increased chance that there would be infringements.

In the extreme, with Temple Bruer sited inside the DA, the very future of the airfield will be in doubt. As the owner, this is not acceptable, when other options could be used.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

As highlighted above, however, but also have concerns about the intention to use the proposed DA for RAFAT training. There is always a significant risk of accident with high energy flying maneuvers. A large part of the DA is over densely built up areas, especially in its North Western Quadrant and there are also plans for very large developments just to the North East of Waddington Airfield. It is not appropriate to subject these local populations to these risks.

I would put forward Option 1 to enable the 15 based aircraft to operate out of Temple Bruer Airfield un restricted. Orwhere there is a stub, allow the stub to start from 1500' so we can go West or East at lower level to operate normally.

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes
- Speak to ATC? Yes
- Fly above FL50? Yes
- Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 Between 4 and 6 times per week.
- Options 7 – 8 Never.

Any other feedback

The SkyGuardian Trial in Aug/Sept demonstrated that RPAS could operate from Waddington with little impact on local airspace users. It is to be hoped that the lessons learned then can be applied to enable a similar outcome for this ACP.

The loss of a significant amount of Class G Airspace is to be regretted and perhaps, if Protector had been specified with full See and Avoid capability from the start, this loss would have been unnecessary. GA Airfields are already under extreme pressure and have to be protected

The GA community has been under great pressure to improve electronic conspicuity supported by DoT grants and the CAA. It would be entirely reasonable to expect Military Aircraft, including Protector, to be similarly equipped where appropriate.

Archived: 07 December 2021 16:17:33
From: UASCDC-ACP
Sent: 08 November 2021 17:32:00
To: [redacted]
Subject: RE: UC Enabling Remotely Piloted Air System Operations Out of RAF Waddington
Sensitivity: Normal

Dear [redacted]

Thank you for your email.

The MOD is still in Stage 2 of the ACP and is about to send out some engagement material on the airspace design options. As a listed stakeholder you will receive a copy of the material.

The ACP timeline was updated last week following a meeting with the CAA, extending the Stage 2 Gateway to the end of Jan 2022. Two new documents can be found on the portal. Consultation is scheduled for May – Jul 2022 at the moment.

I hope that has clarified the MOD's current position with the ACP.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 03 November 2021 14:30
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Enabling Remotely Piloted Air System Operations Out of RAF Waddington

Dear [redacted]

I was wondering if you could tell me when the consultation phase for the RAF Waddington ACP will commence, how long it will last, and what form it will take?

I understand from the documents on the CAA website that the 'Consult Gateway' was set for 29/10/21. I presume this was the planned date to begin the consultation? I notice that the relevant CAA webpage has not been updated since early May.

Any advice and information on this would be greatly appreciated.

Thanks,

[redacted]

[redacted]
Campaigns Coordinator

[redacted]
https://dronewars.net

Drone Wars UK
Peace House
19 Paradise Street
Oxford OX1 1LD

[redacted]

Archived: 09 January 2022 15:39:45
From: UASCDC-ACP
Sent: 17 December 2021 10:32:00
To: '[redacted]
Subject: RE: UC ACP 2019-18 design options Stage 2 - British Gliding Association response
Sensitivity: Normal

Dear [redacted],

Thank you for your feedback. This is just a quick acknowledgement as I am away at present. I will read and respond early next week as appropriate.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 15 December 2021 12:55
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP 2019-18 design options Stage 2 - British Gliding Association response

Please find attached the BGA response to your ACP 2019-18 design options letter.
Please confirm receipt.
Kind regards
[redacted]

[redacted]
Chief Executive Officer

British Gliding Association
8 Merus Court
Meridian Business Park
Leicester LE19 1RJ

[redacted]
www.gliding.co.uk

BRITISH GLIDING ASSOCIATION
Registered in England 422605

wwgc2022.co.uk

8 Merus Court
Meridian Business Park
Leicester
LE19 1RJ

[redacted]
www.gliding.co.uk

The Airspace Change Manager
UASCDC-ACP@ginetiq.com

ACP-2019-18 AIRSPACE DESIGN OPTIONS – BGA RESPONSE

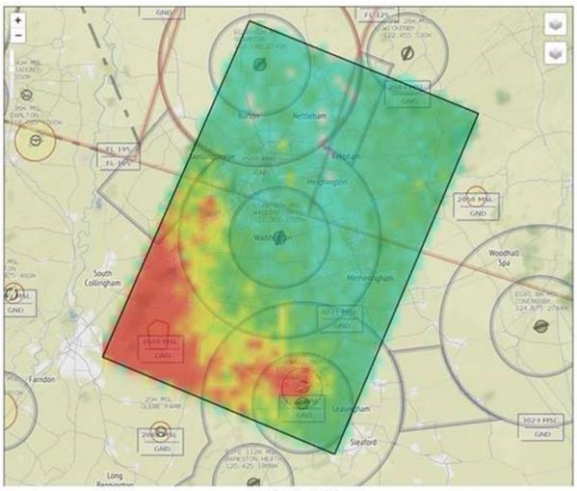
The British Gliding Association (BGA) is the governing body of sport gliding in the UK and represents the interests of some 6500 members of the UK's 78 gliding clubs including the operators of some 2200 sailplanes.

Gliding
The sport of gliding includes a significant amount of cross-country flying. Gliders use rising air in thermals to climb and use the gliders very flat gliding angle to cover distance before again stopping to climb. Flying in rising air is fundamental to staying airborne.

Almost all cross-country flights are planned and flown to result in a return to base. Details of how gliders operate are available in AIC Y 036/2020. Most gliders flying cross-country are equipped with FLARM electronic conspicuity devices that have a recording function. As a result, the BGA can collect and analyse flight traces.

'Local' gliding occurs in daylight hours. Cross-country gliding, e.g., as detailed below, primarily occurs from 10am through to 6pm.

The following illustration is a FLARM trace heat map of gliding activity from two recent summer seasons. The hotspot around RAF Cranwell is primarily associated with weekend-only gliding activity. Most of the traffic highlighted in this heatmap is using an operating band of between 2000' and 5000' amsl.



Segregated airspace along with the soaring conditions that exist immediately to the west of Waddington result in significant utilisation by transiting gliders. The proposed airspace options will impact that transiting traffic.

Comments

1. **Response timeline**. The BGA received the ACP-2019-18 - Stage 2 Stakeholder Engagement Material by email on the 26th of November 2021 which was subsequently updated on the 30th of November 2021. We are surprised by the response deadline of 17th December 2021 resulting in an 18-day consultation period.

2. **Design principles.**

    a. RPAS. In the past ten years, it is understood that there have been some eighteen UK military drone crashes of which one third occurred during take-off or landing. Whilst Protector aircraft are not large, they can carry munitions. The proposed Waddington RPAS airspace is overhead an extensive and rapidly expanding urban conurbation around Lincoln. It is not clear how this issue is addressed under the DP's.
    b. RAFAT. RAFAT display and other flying practice results in occasional accidents. The proposed Waddington RAFAT airspace is overhead an extensive and rapidly expanding urban conurbation around Lincoln. It is not clear how this issue is addressed under DP(a).

3. **Exportation of risk.** The ACP design options all result in reduced access to actively utilised class G airspace. The ACP does not describe the impact on MAC risk to aircraft operating outside the proposed segregated airspace design options, including within increasingly restricted pinch points caused by redirected flow around the proposed airspace. Has that analysis been carried out by the sponsor?

4. **RPAS detect and avoid.** The BGA recognises that RPAS is an emerging requirement. CAA policy is that segregated airspace is required for BVLOS RPAS unless detect and avoid capability is in place. We understand from aerospace industry reports that Protector is being delivered to the RAF without an approved Detect and Avoid (DaA) capability. During the engagement resulting in the 2021 TDA at Waddington and Lossiemouth it was explained that the Protector has DaA technology available to it, but CAA has not yet approved that technology for use in UK airspace.

    DaA is required to provide public and regulator confidence that risk has been reduced to ALARP. We would like to understand when the sponsor believes Protector DaA approval will be established (thus negating the need for segregated airspace) and an assurance that once DaA approval is in place the sponsor will desegregate the airspace.

5. **RAFAT use segregated airspace unjustified**. The intention to add a permanent DA overhead Waddington *in addition* to retaining R313 thereby doubling the amount of airspace reserved for RAFAT use is an extraordinary proposal and cannot be supported.

We note that from the ACP that the 'availability of EG R313 has again been placed in doubt for use by RAFAT. Assessment of the viable options for RAFAT indicate that access to airspace over RAF Waddington would be beneficial to the team.'

The MoD appears to be proposing to double the amount of Danger Area airspace allocated for RAFAT just in case EG R313 is unavailable. Doubling up on airspace allocated to the RAFAT 'just in case' an MoD sale of an airfield results in difficulties with using R313 is not a reasonable justification. We would expect R313 to be disestablished if the RAFAT-use airspace options are taken forward within this ACP.

6. **Airspace classification**. The airspace design options do not specify the proposed airspace classification. It is noted that the sponsor envisages the most economical type of airspace to be implemented (in terms of hours of activation, access to airspace and human resources) would be segregated airspace in the form of a danger area. Therefore, stakeholders need to consider the presented options bounded in red as Danger Areas. Or as class A, C, D, or E and potentially as RMZ or TMZ. The classification of airspace being proposed is unclear. A flexibly applied Danger Area would seem more appropriate than reclassifying the airspace as A, C, D or E.

7. **Proportionality.** The CAA Danger Area policy states that the 'notified dimensions of a permanent DA are to be the minimum practicably necessary to meet the task for which the DA has been established. These dimensions are to be reviewed annually by the DAA[1].'

   Several of the proposed designs are disproportionately sized. That view is based on the known performance of the associated air systems. Any large volume of airspace surrounding Waddington will negatively impact sporting and recreational General Aviation flying including gliding through exclusion and through congestion outside the proposed segregated airspace.

8. **Operating hours.** The CAA Danger Area policy states that the 'notified hours of operation for a permanent DA and TDA are to be the minimum practicably necessary to carry out the task for which the DA has been established. Hours shall be reviewed annually by the DAA.'

   The segregated airspace must only be active when there is an active operational need at Waddington, i.e., the segregated airspace should only be 'turned on' when RAFAT or Protector flying will take place. It is recognised that a notification system will be required that improves on the current NOTAM system.

9. **Justification for designs.** We are aware that RAF Waddington based movements operate safely under IFR conditions within the existing MATZ. The RPAS trials during 2021 took place within a 5nm radius TDA. The ACP notes that the 'current landing profile under development for RAF Waddington requires flight to approximately 5.5 nm downwind for each runway.' No data has been presented that justifies the various design options including the surprisingly large circuit profile 'currently under development.' Knowing that there is a strong need to minimise the airspace design,

[1] Danger Area Authority

we would like to understand why this unsuitable profile is under development for Waddington? We expect the sponsor to ensure that the circuit and approach procedure capability and design are reduced to the minimum size possible, thus minimising any segregated airspace.

10. **Danger Area crossing.** We note that there is an ambition to provide a Danger Area crossing service (DACS). Our experience of military TDA DACS during 2021 indicates that while the CAA policy requirement for DACS is satisfied in theory in ACPs, access 'on the day' is not possible for non-military aircraft. We therefore request more detail about how the MoD intends to deliver the proposed DACS.

11. **Engagement.** There are gliding clubs that are impacted directly or indirectly by the ACP. These clubs will need to be engaged by the sponsor to ensure that their specific operating needs are addressed. The BGA can supply local contact details.

    For example, a RAFAT training area overlaid on the Waddington MATZ 5nm footprint will have a detrimental impact on GA within the area as it will result in rerouting of aircraft outside the airspace. A 6nm zone will further significantly impact on Cranwell gliding club. Cranwell gliding club aircraft are already constrained to the north with Tutor operations to the south. Any weekend operation of RPAS or the RAFAT will have significant impacts on Cranwell gliding operations primarily associated with congestion.

12. **ACP Options**

Option	Comment
All options	Note 1. R313 must be disestablished as part of any option that also aims to address RAFAT requirements. Note 2. The proposed airspace should only be active during launch and recovery phases for RPAS or for display periods for RAFAT, during which time a functional DACS must be in place.
1 low	This option is potentially acceptable if our notes 1 and 2 are addressed.
2 low	The footprint is excessive and will result in increased congestion for Cranwell gliding activity and other GA activity including at Temple Bruer airfield. The sponsor should limit the radius of activity to 5nm or less. See note 1.
3 low	The stubs should not be necessary if our point 9 re the noted 5.5nm circuit profile is addressed. See note 1.
4 low	The stubs should not be necessary if our point 9 re the noted 5.5nm circuit profile is addressed. See note 1.
5 low	The stubs should not be necessary if our point 9 re the noted 5.5nm circuit profile is addressed. See note 1.

6 low	6a. This option is potentially acceptable if our notes 1 and 2 are addressed. 6a. Area A only is potentially acceptable if our notes 1 and 2 are addressed. The stubs should not be necessary if our point 9 re the noted 5.5nm circuit profile is addressed.
7 medium	This option appears to be a blunt solution and is disproportionate because the RPAS can climb or descend accurately without requiring this volume of airspace. Consideration should be given to establishing minimum sized corridors between the RPAS low airspace design and the Lincolnshire CTA to minimise the volume of airspace required. See note 2.
8 medium	This option appears to be a blunt solution and is disproportionate because the RPAS can climb or descend accurately without requiring this volume of airspace. Consideration should be given to establishing minimum sized corridors between the RPAS low airspace design and the Lincolnshire CTA to minimise the volume of airspace required. See note 2.

Yours sincerely

[redacted]

[redacted]
Chief Executive Officer
[redacted]

Archived: 07 December 2021 16:02:00
From: UASCDC-ACP
Sent: 01 December 2021 20:03:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Version 1.1
Response requested: Yes
Sensitivity: Normal

Dear [redacted]

Thank you for your email. I think that the guidance in CAP1616 refers to the length of time a Change Sponsor might estimate for the entirety of Stage 2 of a Level 1 ACP, not the length of time for any specific engagement activity.

To expand on this, the MOD has actually been in Stage 2 (DEVELOP AND ASSESS) since passing through the Stage 1 Gateway in January 2020. We anticipate submitting the Stage 2 documentation (i.e. the Airspace Change Design Options document, the Design Principles Evaluation and the Options Appraisal I) in January 2022, so will have been in Stage 2 for 24 months. As you will appreciate, the bulk of this time has been spent maturing the UK airspace requirements for Protector to the current position which we shared with you last week. In addition, the recent RAFAT requirement has necessitated more design work.

The amendments to the engagement letter were minor, so it was not felt necessary to push the deadline back into the following week of December, but I will be happy to consider any feedback received in the few days following the deadline. We need to report to the CAA in a timely manner in order to meet our agreed Gateway, but you will continue to have further opportunities to provide comment and feedback through Stage 3.

I hope this answers your question.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 30 November 2021 20:59
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Version 1.1

Thanks for the revised detail.
We note the unchanged deadline for responses of 17 Dec 21.
Our understanding is that a typical timeline for a level 1 ACP at stage 2 is 13 weeks. Can you advise why stakeholders have only been provided with 3 weeks during which to respond?
I look forward to your response.
Kind regards
[redacted]
BGA

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

Sent: 30 November 2021 16:23
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material - Version 1.1

Dear all,

Apologies, but the engagement letter sent out on 27 Nov 2021 contained some broken cross references to Figure captions in paragraphs 9.2 and 9.4. These have been corrected and are annotated in Version 1.1 (attached) by a line in the left hand margin. The corrections are minor in nature, but make for a clearer read of the document. The CAA ACP online portal has also been updated with V1.1.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

From: UASCDC-ACP
Sent: 26 November 2021 15:14
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

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Archived: 07 December 2021 16:27:46
From: [redacted]
Sent: 03 December 2021 14:32:22
To: UASCDC-ACP
Subject: FW: [Web Enquiry]: Alison Julie Green
Sensitivity: Normal

[redacted]

Your email has finally got to me.

FYI, Burn GC will be contributing to a RSAG response which will be forwarded to the BGA for consideration of a national gliding response to this ACP.

Please keep us on the mailing list tough using the [redacted] email address.

Thanks,

[redacted]

[redacted]
Burn Gliding Club Safety Officer &
Coordinator, Regional Soaring Airspace Group
[redacted]

-----Original Message-----
From: [redacted]
Sent: 30 November 2021 15:50
To: [redacted]
Subject: [Web Enquiry]: [redacted]

MESSAGE FROM: [redacted]

MESSAGE READS:
I have been trying to contact you to provide some information reference an airspace change that I am managing on behalf of the MOD, but the email sent to info@burnglidingclub.co.uk was not able to be delivered.
The club was a stakeholder in an ACP which the MOD ran in 2019 regarding the proposed relocation of the RAF Aerobatic Team to RAF Leeming (and others). This ACP was subsequently withdrawn.
A new requirement for the RAFAT to conduct display practices over RAF Waddington has emerged and the CAA is keen that past stakeholders are able to provide comment if applicable.
May I direct you to: https://emea01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fairspacechange.caa.co.uk%2FPublicProposalArea%3FpID%3D142&data=04%7C01%7C%7Ce74c06c9e48f4b1d6dd608d9b4191812%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C637738842141696441%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=RwXzgts0qIbmQCnmpTdx5WGXYeX4BPbl2PtYUa3Klqc%3D&reserved=0 where the details are to be found? Engagement Letter V1.1 may be of interest. Alternatively you will be pleased to hear that the British Gliding Association is a key stakeholder in the current ACP-2019-18. I would be happy to answer any questions, but if I hear nothing I will assume that you have no comment and do not wish further communications about this ACP.

CONTACT TEL: [redacted]

REPLY TO: uascdc-ACP@qinetiq.com

Archived: 07 December 2021 16:15:05
From: [redacted]
Sent: 01 December 2021 15:33:50
To: UASCDC-ACP
Subject: FW: [Web Enquiry]: [redacted]
Sensitivity: Normal

Hi [redacted]

I acknowledge receipt of your communication.

Not sure where you got the 'info' email address from as it has never existed. The contact us form works, but if you want to use an email address in the future then [redacted] would be suitable.
Kind regards,
[redacted] (Chairman, Burn Gliding Club)

-----Original Message-----
From: [redacted]
Sent: 30 November 2021 15:50
To: [redacted]
Subject: [Web Enquiry]: [redacted]

MESSAGE FROM: [redacted]

MESSAGE READS:
I have been trying to contact you to provide some information reference an airspace change that I am managing on behalf of the MOD, but the email sent to info@burnglidingclub.co.uk was not able to be delivered.
The club was a stakeholder in an ACP which the MOD ran in 2019 regarding the proposed relocation of the RAF Aerobatic Team to RAF Leeming (and others). This ACP was subsequently withdrawn.
A new requirement for the RAFAT to conduct display practices over RAF Waddington has emerged and the CAA is keen that past stakeholders are able to provide comment if applicable.
May I direct you to:
https://emea01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fairspacechange.caa.co.uk%2FPublicProposalArea%3FpID%3D142&data=04%7C01%7C%7Ce74c06c9e48f4b1d6dd608d9b4191812%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C637738842141696441%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=RwXzgts0qIbmQCnmpTdx5WGXYeX4BPbl2PtYUa3Klqc%3D&reserved=0 where the details are to be found? Engagement Letter V1.1 may be of interest. Alternatively you will be pleased to hear that the British Gliding Association is a key stakeholder in the current ACP-2019-18. I would be happy to answer any questions, but if I hear nothing I will assume that you have no comment and do not wish further communications about this ACP.

CONTACT TEL: [redacted]

REPLY TO: uascdc-ACP@qinetiq.com

Archived: 09 January 2022 15:38:59
From: UASCDC-ACP
Sent: 17 December 2021 10:35:00
To: [redacted]
Subject: RE: UC UC-ACP-2019-18
Sensitivity: Normal

Dear [redacted]

This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 17 December 2021 09:12
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Fwd: UC-ACP-2019-18

Begin forwarded message:

From: [redacted]
Subject: UC-ACP-2019-18
Date: 16 December 2021 at 21:51:26 GMT
To: UASCDC-ACP@qinetiq.com

[redacted]

Submission for self

On a general basis, I have flown a light plane from Temple Bruer Airfield for the past 35 years. Weekday flying requires close liaison with Cranwell both on leaving and returning, necessitating following instructions for routes and heights. The same holds good for a number of the other pilots based at TB. Relations with Cranwell are good.

Comments on the MOD proposals.

1. Priority 1. DP(a). 'Safe environment' Waddington would involve Reds practising over highly populated Lincoln

rather than hitherto over largely unpopulated countryside
at Scampton. Contradicts MOD's intention for safe operation.

2. Option 1 Low is obviously best for TB as well as the MOD's preferred option - Para 8.4.1. - if it can be made to work for the Protector.

3. Apart from Option 2 all RAFAT operations are within Waddington Matz, being the same size as 313 and avoiding TB. Confirmed in Para 8.4.1.

4. Para 11.2.2. RAFAT usage. Simple procedures will be required to ensure that TB can operate when the Reds are flying, as otherwise TB activities would be seriously
curtailed to the detriment of the pilots based there and the airfield owner if pilots decide to leave.

5. Para 11.1.1. Stubs would only be required for Protector operations. Sky Guardian operated within the Waddington Matz this summer without a problem. B and C areas
are not only excessive but totally unnecessary. Only yesterday an AWAC was flying and did not come anywhere near TB ; several of us were flying without any problem.
In all my time at TB I can not remember a single incident of an AWAC using the airspace shown on the southern stubs, nor indeed overflying the airfield.

6.The existing east/west routes to and from TB will need to be preserved to ensure the safe and continued operation of the airfield.

7.A practical problem is that we can not reach Waddington by plane radio whilst on the ground at TB.

Plane equipped with radio and transponder. Fly at least once a week on weekdays, weather permitting, and evenings and weekends in the summer.

[redacted]

Archived: 09 January 2022 15:31:54
From: UASCDC-ACP
Sent: 17 December 2021 10:38:00
To: [redacted]
Subject: RE: UC Proposed changes to ACP-2019-18
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com


Please consider the environment before printing this email.

From: [redacted]
Sent: 15 December 2021 20:41
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Proposed changes to ACP-2019-18

Dear Sir/Madam, PSA

Regards

[redacted]


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ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Myself as a pilot and Temple Bruer based ac owner.
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.
Do you have any comments on the design principles?
DP(c) The current Protector landing profile under development for RAF Waddington, requiring flight to approximately 5.5 nm downwind for each runway, pays no heed to the impact on, or existence of Temple Bruer and places Protector turns onto right base 02 Waddington in the overhead. All options requiring a 6 nm radius circle or an Area B similarly ignore the needs of Temple Bruer. DP(a) How does the MOD intend to safeguard the lives and property of those on the ground during RAFAT display practices? Waddington is now in an extensively urbanized area and significant further development is planned. I note that a NOTAM for a RA(T) has already been published for Waddington 07-14 December.
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Option 1 Low is the only design that I would consider acceptable.

It is simple and does not create significant controller workload for Temple Bruer traffic and allows for continued uninterrupted arrivals and departures. We have good working relationships with both the ATCU's at Waddington and Cranwell and already have fairly standard low level routes into and out of the Cranwell portion of the MATZ and remain clear of the Waddington MATZ.

Any solution other than the MODs favoured Option 1 will require a phone call to negotiate a departure from Temple Bruer, increasing controller and pilot workload, as it is not possible to speak to Waddington on 119.500MHz from the ground.

Option 1 would have the least impact on all other low lever local airspace users and would only require a DACs for pilots wishing to transit the Area.

Option 2 or any design which incorporates Area B will require the complication of routes and procedures to and from Temple Bruer and increased controller workload.

Option 2 is not proportionate, as it delivers a greater volume of airspace than the RAFAT currently have, or have ever used for training in their entire history. Little Rissington, Kemble, Scampton, Cranwell, Scampton.

In my opinion designs 2, 3, 4, 5 and 6b low are all larger and more complex than required.

Protector has the same airframe and power unit as SkyGuardian, which was observed to have significant maneuverability and performance during departure and approach, allowing it to operate well inside the 5 nm TDA in the summer of 2021. Protector was developed in the desert wilderness of Southern California and the vastness of the United States. General Atomics and the RAF need to reduce Protectors Low Level airspace requirement, to make it fit for purpose, in the confines of Lincolnshire. It is disappointing that the current landing profile, under development for RAF Waddington, requires flight to approximately 5.5 nm downwind for each runway. This totally ignores the existence of the airfield at Temple Bruer and places Protectors turns onto right base for 02 at Waddington in the Temple B overhead. I will be very surprised and disappointed, if a software update, (and the will to create it) cannot be produced, to allow for safe ATLCs within the current 5 mile MATZ radius.

All current and previous air systems based at Waddington, including Vulcan Nimrod and B707 derivatives had/have sufficient performance and crew intellect to remain clear of Temple Bruer in the vertical plane. I see no reason for this not to be the case with Protector.

A 3 degree glideslope would allow Protector to be in excess of 1500' at 5nm distance from Waddington. If Protector really needs to turn finals at 5.5 miles, there must be scope for a low level corridor into and out of Temple Bruer and for the base level of area B or any 6 nm circle to be raised in the area to allow for it.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

I very rarely fly above FL50 in the Waddington area, so I am only concerned with the lowest levels of the any solution.

I believe that a 5 nm danger area centered on Waddington, with a properly resourced DACs, should be provided.

I also believe that a suitable short automated airfield status radio message, on 119.500MHz should be broadcast every 60 seconds or so, when the airfield is closed and DAC and LAR services are not being provided. This will cater for early or unscheduled closures and for pilots, who at the time and point of departure, were expecting Waddington to be active, with some sort of service on their arrival in the area.

What is your biggest concern, if any, about this ACP?

That the needs of Temple Bruer Airfield and its users will not be catered for, or that procedures will become overly complex and onerous.

That Temple Bruer will be unnecessarily inside a larger than required danger area.

I am aware that some of the missions flown by Protector will be very lengthy and that some of those flights may for numerous reasons return to Waddington early. I am concerned that in such circumstances assuming no other activity, that the ATCU at Waddington will close and that any airborne traffic inbound to Temple Bruer, will be unable to be raise Waddington and thus forced to divert and land elsewhere.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

Any of the Low Level Options which encompass the airspace immediately above Temple Bruer and curtail departure or arrival activity, are unacceptable.

I see no compelling reason for a 6 nm radius circle or for Area B to exist. However, If 6 nm really is required, I see no reason for the base level not to stepped up to allow for higher & steeper Protector approaches to Waddington and for Temple Bruer traffic to arrive and depart beneath them unhindered.

The gap between Waddington and Cranwell/Cranwell North is already very busy with East/West traffic to and from the coast. Extending the radius to 6 nm will create an even tighter pinch point and encourage traffic to pass very close to Cranwell North, where winch launching is authorized to 3220 AMSL

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes Mode S and ADSB
- Speak to ATC? Yes Always
- Fly above FL50? No
- Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 At least twice weekly in the winter months and four to eight times per week in the summer, weather permitting.

- Options 7 – 8 Never

Any other feedback

Temple Bruer, airfield opened in 1981 and is situated 5.5 miles South of Waddington and 2.9 nm North of Cranwell, within the combined MATZ. There are currently 15 privately owned aircraft based there, operated by 19 pilots. I have been flying from the location since 2019.

The investment of time and money, made by individuals to procure, insure, hangar and maintain their aircraft and the license's required to fly them, are not insignificant. The new airfield owner has recently made a very considerable investment to buy and make improvements to the airfield and its infrastructure. The financial investment that I make, forms a large proportion of my disposable income. Temple Bruer airfield and flying from it, are central to my quality of life and wellbeing. I see no reason for Protector or RAFAT activity at Waddington to curtail that.

I have no issue with the RAFAT being based at Waddington but I am very surprised that the airspace in the immediate vicinity is being considered as a suitable training environment for the team. I believed that continued access to R313 was key to the team moving to Waddington and remaining in Lincolnshire. In my opinion the loss of R313 should result in the move to Waddington being reconsidered. With the exception of Northolt, RAF Waddington is probably situated in the most urban area of all active RAF Stations.

The City of Lincoln and the conurbations of Canwick, Bracebridge Heath and Hykeham and the large villages of Waddington, Branston, Metheringham and Navenby are all close by and grow ever larger. A further 6,450 dwellings and several schools are planned for the Lincoln South East Quadrant in the area between Bracebridge and Canwick.

R313 is by comparison very rural. Never the less the team destroyed a house in the Village of Welton with one of two abandoned jets, following a mid-air collision on the edge of the Scampton ATZ. The team have had two further mid-air collisions since.

In total there have been 11 successful team ejections from Hawk T1/T1a's, with 14 airframes destroyed. Sadly 4 team members have been killed since the team started to operate Hawks. The majority of accidents have happened during off season training.

I appreciate the skill and professionalism of the RAFAT but history has shown that its pilots, like all humans, are not infallible and that their aging aircraft are not immune to technical failures or bird strikes. I do not believe that the Waddington area is a suitable location for fast jet formation aerobatics and question the wisdom in considering it to be so. History has also shown that the team requires its own dedicated airfield in a suitably rural location, with dedicated airspace.

Archived: 09 January 2022 15:36:09
From: UASCDC-ACP
Sent: 17 December 2021 10:36:00
To: [redacted]
Subject: RE: UC Engegament v1.1 ACP 2019 18
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 16 December 2021 16:46
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Engegament v1.1 ACP 2019 18

Dear Sponsor

Please find attached my Feedback on the current stage of your ACP.

While I am sympathetic to both reasons for the requested airspace change I have some concerns which are raised in my Feedback. Assuming these can be addressed I'd be happy to support the application, just not at this stage.

Kind regards

[redacted]

ACP-2019-18 RAF WADDINGTON

UASCDC-ACP@qinetiq.com

STAKEHOLDER ENGAGEMENT V1.1

Summary

I feel the engagement timescale was far too short and hurried to consider an ACP that offered so many options, for 2 different aircraft types and roles. While I am sympathetic to both requirements can you please explain why the timescale was so rushed?

In addition, can you please explain why the MoD feels the need to or at least seems to want to retain R313 in addition to the new airspace. Specifically, why does the MoD require both R313 and new airspace for RAFAT operations?

Without explanations I am unable to support this ACP until provided with sufficient time for informed consideration.

Para 11.2.2 There are too many caveats associated with continued use of R313 and in the worst case for Class G users there would be both R313 and the new DA. There should be no attempt made to retain R313 at the same time as the 'new' DA. Change of airspace to DA over Waddington should be coincident with removal of R313.

R313 should be withdrawn **IF** this new DA is to be approved.

Para 7.1 Priority 4 Design Principle. Remove '*endeavour*' and make airspace as accessible as poss.

Para 10.3 *"Class E airspace that is notified as a TMZ, although it is thought to be less likely to be able to produce an acceptable safety argument"* Why? What makes it acceptable or unacceptable?

Table 2. *"Less impact on other airspace users since it can be tactically managed (does not have notified hours of activation in UK AIP)".*

Even in Summer Microlight tend to plan cross-country navex's a day or more in advance, because the aircraft are slow and the sorties consequently long. So DAs are routinely avoided during planning and relatively short-notice de-activations don't help. In effect, 'temporary' DAs - TDAs or 'NOTAM-notified' permanent DAs - are permanent for microlights.

Page 7. Options

Option 2 Why does the lateral size of the airspace need to be larger than the TDA previously used (and coincident with MATZ), and why must it be larger than other options?

Why do Options 3, 4 & 5 need new panhandles – areas B & C. Similarly, for Option 6B – why are areas B & C required?

Activation of different 'shapes' (stubs or not) offers no benefit at all for microlights.

[redacted]
GA Pilot
16 Dec 21

Archived: 09 January 2022 15:15:01
From: UASCDC-ACP
Sent: 17 December 2021 10:46:00
To: [redacted]
Subject: RE: UC ACP-2019-18 Airspace Design Options Feedback
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 06 December 2021 12:49
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP-2019-18 Airspace Design Options Feedback

[redacted]
Pease find attached my response to the design options.

Sincerely

[redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Myself as a pilot and local to Waddington resident.
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.
Do you have any comments on the design principles?
DP(c) The current Protector landing profile under development for RAF Waddington, requiring flight to approximately 5.5 nm downwind for each runway, pays no heed to the impact on, or existence of Temple Bruer and places Protector turns onto right base 02 Waddington in the overhead. All options requiring a 6 nm radius circle or an Area B similarly ignore the needs of Temple Bruer. DP(a) How does the MOD intend to safeguard the lives and property of those on the ground during RAFAT display practices? Waddington is now in an extensively urbanized area and significant further development is planned. I note that a NOTAM for a RA(T) has already been published for Waddington 07-14 December.
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Option 1 Low is the only design that I favour.

It is simple and does not create significant controller workload for Temple Bruer traffic and allows for continued uninterrupted arrivals and departures. We have good working relationships with both the ATCU's at Waddington and Cranwell and already have fairly standard low level routes into and out of the Cranwell portion of the MATZ and stay clear of the Waddington portion, unless the airfield is closed, or are invited to go direct.

Any solution other than the MODs favoured Option 1 will require a phone call to negotiate a departure from Temple Bruer, increasing controller and pilot workload, as it is not possible to speak to Waddington on 119.500MHz from the ground.

Option 1 would have the least impact on all other low lever local airspace users and would only require a DACs for pilots wishing to transit the Area.

Option 2 or any design which incorporates Area B will require the complication of routes and procedures to and from Temple Bruer and increased controller workload.

Option 2 is not proportionate, as it delivers a greater volume of airspace than the RAFAT currently have, or have ever used for training in their entire history. Little Rissington, Kemble, Scampton, Cranwell, Scampton.

In my opinion designs 2, 3, 4, 5 and 6b low are all larger and more complex than required.

Protector has the same airframe and power unit as SkyGuardian, which was observed to have significant maneuverability and performance during departure and approach, allowing it to operate well inside the 5 nm TDA in the summer of 2021. Protector was developed in the desert wilderness of Southern California and the vastness of the United States. General Atomics and the RAF need to reduce Protectors Low Level airspace requirement, to make it fit for purpose, in the confines of Lincolnshire. It is disappointing that the current landing profile, under development for RAF Waddington, requires flight to approximately 5.5 nm downwind for each runway. This totally ignores the existence of the airfield at Temple Bruer and places Protectors turns onto right base for 02 at Waddington in the Temple B overhead. I will be very surprised and disappointed, if a software update, (and the will to create it) cannot be produced, to allow for safe ATLCs within the current 5 mile MATZ radius.

All current and previous air systems based at Waddington, including Vulcan Nimrod and B707 derivatives had/have sufficient performance and crew intellect to remain clear of Temple Bruer in the vertical plane. I see no reason for this not to be the case with Protector.

A 3 degree glideslope would allow Protector to be in excess of 1500' at 5nm distance from Waddington. If Protector really needs to turn finals at 5.5 miles, there must be scope for a low level corridor into and out of Temple Bruer and for the base level of area B or any 6 nm circle to be raised in the area to allow for it.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

I very rarely fly above FL50 in the Waddington area, so I am only concerned with the lowest levels of the any solution.

I believe that a 5 nm danger area centered on Waddington, with a properly resourced DACs, should be provided.

I also believe that a suitable short automated airfield status radio message, on 119.500MHz should be broadcast every 60 seconds or so, when the airfield is closed and DAC and LAR services are not being provided. This will cater for early or unscheduled closures and for pilots, who at the time and point of departure, were expecting Waddington to be active, with some sort of service on their arrival in the area.

What is your biggest concern, if any, about this ACP?

That the needs of Temple Bruer Airfield and its users will not be catered for, or that procedures will become overly complex and onerous.

That Temple Bruer will be unnecessarily inside a larger than required danger area.

I am aware that some of the missions flown by Protector will be very lengthy and that some of those flights may for numerous reasons return to Waddington early. I am concerned that in such circumstances assuming no other activity, that the ATCU at Waddington will close and that any airborne traffic inbound to Temple Bruer, will be unable to be raise Waddington and thus forced to divert and land elsewhere.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

Any of the Low Level Options which encompass the airspace immediately above Temple Bruer and curtail departure or arrival activity, are unacceptable.

I see no compelling reason for a 6 nm radius circle or for Area B to exist. However, If 6 nm really is required, I see no reason for the base level not to stepped up to allow for higher & steeper Protector approaches to Waddington and for Temple Bruer traffic to arrive and depart beneath them unhindered.

The gap between Waddington and Cranwell/Cranwell North is already very busy with East/West traffic to and from the coast. Extending the radius to 6 nm will create an even tighter pinch point and encourage traffic to pass very close to Cranwell North, where winch launching is authorized to 3220 AMSL

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes Mode S and ADSB
- Speak to ATC? Yes Always
- Fly above FL50? No
- Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 At least twice weekly in the winter months and four to eight times per week in the summer, weather permitting.

- Options 7 – 8 Never

Any other feedback

Temple Bruer, airfield opened in 1981 and is situated 5.5 miles South of Waddington and 2.9 nm North of Cranwell, within the combined MATZ. There are currently 15 privately owned aircraft based there, operated by 19 pilots. I have been flying from the location since 2005.

The investment of time and money, made by individuals to procure, insure, hangar and maintain their aircraft and the license's required to fly them, are not insignificant. The new airfield owner has recently made a very considerable investment to buy and make improvements to the airfield and its infrastructure. The financial investment that I make, forms a large proportion of my disposable income. Temple Bruer airfield and flying from it, are central to my retirement, quality of life and wellbeing. I see no reason for Protector or RAFAT activity at Waddington to curtail that.

I have no issue with the RAFAT being based at Waddington but I am very surprised that the airspace in the immediate vicinity is being considered as a suitable training environment for the team. I believed that continued access to R313 was key to the team moving to Waddington and remaining in Lincolnshire. In my opinion the loss of R313 should result in the move to Waddington being reconsidered. With the exception of Northolt, RAF Waddington is probably situated in the most urban area of all active RAF Stations.

The City of Lincoln and the conurbations of Canwick, Bracebridge Heath and Hykeham and the large villages of Waddington, Branston, Metheringham and Navenby are all close by and grow ever larger. A further 6,450 dwellings and several schools are planned for the Lincoln South East Quadrant in the area between Bracebridge and Canwick.

R313 is by comparison very rural. Never the less the team destroyed a house in the Village of Welton with one of two abandoned jets, following a mid-air collision on the edge of the Scampton ATZ. The team have had two further mid-air collisions since.

In total there have been 11 successful team ejections from Hawk T1/T1a's, with 14 airframes destroyed. Sadly 4 team members have been killed since the team started to operate Hawks. The majority of accidents have happened during off season training.

I appreciate the skill and professionalism of the RAFAT but history has shown that its pilots, like all humans, are not infallible and that their aging aircraft are not immune to technical failures or bird strikes. I do not believe that the Waddington area is a suitable location for fast jet formation aerobatics and question the wisdom in considering it to be so. History has also shown that the team requires its own dedicated airfield in a suitably rural location, with dedicated airspace.

Archived: 09 January 2022 15:19:44
From: UASCDC-ACP
Sent: 17 December 2021 10:45:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 06 December 2021 16:23
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Re: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear [redacted]

Please see my response form attached.

Please feel free to contact me at any time if you have questions or require further information.

Kind regards
[redacted]

[redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Date: Friday, 26 November 2021 at 17:59
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

This email and any attachments to it may be confidential and are intended solely for the use of the individual to whom it is addressed. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error. QinetiQ retains personal data relating to our customers and partners for the purposes of conducting a business relationship, communicating and marketing to them as well as to providing invitations to upcoming events. Please see our Privacy Notice for further information. In accordance with our Privacy Notice, you have the right to withdraw your consent at any time. QinetiQ may monitor email traffic data and also the content of email for the purposes of security. QinetiQ Limited (Registered in England & Wales: Company Number: 3796233) Registered office: Cody Technology Park, Ively Road, Farnborough, Hampshire, GU14 0LX https://www.qinetiq.com

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Rectory Farm Airstrip – and locally based PPL
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

I understand the operational desire for airspace change and welcome the various proposals put forward for consulation.

However:

I think the proposals do not take sufficient account of the impact on local airspace users in the design principles and general consideration for local business and recreational flying activity in the Waddington area.

DP(d) needs to be considered as a higher priorty matter than Level 3.

DP(e) should be considered a higher proriority than Level 4.

Establishement of airspace in Waddington area will have a negative impact on GA activity in the area and will often require re-routing of flights to avoid that airspace unless there is input of sufficient (and uniterupted, during notified hours of operation) ATC manpower mitigation to co-ordinate DA crossing by GA. Item 11.1.3 only specifies ATC provision to be available at all times during RAFAT/Protector operation, NOT for the entire notified hours of activity of the airspace.

At present ATC services to GA in this area are only rarely available at above LARs level due to commitment to other RAF training activity priority. Weekend service is effectively nil.

With that regard, discounting Design Principle 7.4 is negligent as any airspace change will carry consequent knock on effect on other airspace user activity elsewhere (and whilst that may not be directly military flying activity itself, it will be entierely DUE to military activites).

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).
Rewstricted Airspace of the smallest dimensions possible is desiriable for all airspace users. Simple design with readily available ATC service to facilitate access for GA traffic is preferable to variable dimensions notified DA – the reason for this because in my experience (5700hrs PPL/Instructor/Examiner) , the fear of consequence of infringing airspace by GA users results in a large majority of GA pilots remaining clear of the largest dimension published, regardless of whether or not it is 'active'. This inevitably creates ever more pinch points surrounding the established airspace. My preference of options in order is below: Option 1 – smallest size (78.5Nm sq) – with benefit of being simple shape to depict on chart and understandable to pilots. Options 3,4,5 – all similar - Option 3 marginally smaller area – 'stub principle' readily understood by GA and easily depicted on charts – complexity comes with variable activity geometry (see my point above re large majority of GA pilots avoiding largest depicted area unless ATC service provided and make/confirm access to the closed portions). Option 2 – Largest circular area at (113Nm sq) which is 144% of Option 1 size. Option 6 – LEAST PREFERRED - the area depicted is not at all clear to users that I have shared this with, some finding two seperate areas of activation confusing. One section (Option 6a – page 12) shows a 5nm circle with no annotation – ie the same as Option 1 for RAFAT practices. Option 6b (continued) (page 13) shows cropped circle with various sectors A,B.C to be activated as described. - benefit is minimal area activated at any one time – negative aspect is complexity again, which comes with variable activity geometry (see my point above re large majority of GA pilots avoiding largest depicted combined area unless ATC service is provided and readily make/confirm access to the inactive portions).

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

Preference:

LOW

1. Option 1 – (and Option 6a – if that circular profile is correct?) smallest airspace (circular profile) – must have GA accessibility as above.
2. Option 3 – this is the smallest airspace take of "stubs" options.
3. Option 4 - increased area take of "stubs' options
4. Option 5 – further increase of airspace take of "stubs' option
5. Option 2– largest airspace take at 144% of Option 1
6. Option 6 – minimum (assuming the non-circular profile) airspace take when no RAFAT activity during Protector ops. But complicated depiction of various activation options.

Medium

1. Option 7 – minimum airspace take – we use this area for high altitude training/familiarisation in preparation for operating piston engine aircraft at height when visiting mountainous regions (e.g French Alps) each summer.
2. Option 8 – increased airspace take.

Any established airspace to be only activated on 'as needed' basis and with ATC/crossing service provision during activated hours.

Medium airspace should be of a classification that facilitates access by GA (via ATC clearance) when not actually in use for Protector operations (e.g when it away from the area on mission). ATC cover must remain available to GA whenever any Medium area is notified active (ie NOT just when Proctor is within the area

What is your biggest concern, if any, about this ACP?

Impementation of airspace at Cranwell WITHOUT removal of R313/Scampton MATZ/ATZ.

Establishement of some Options would mean increased RAFAT activity occurring over densly populated Lincoln city and environs.

Although not directly an airspace consideration - RAFAT activity draws lots of attention (as it is designed to do!) – local road user/driver distraction is always a problem and undertaking RAFAT display practice activity near busy roads/popluated areas must be considered and adequately mitigated against – appropriate signeage /restriction of parking must be implemented before undertaking the activity of this sort on a regular basis. Therefore, the increased risk to populace cannot be discounted when considering and designing/implementing airspace to facilitate the activity.

If variable geometry options are implemented, a large majority of pilots would not avail themselves of inactive/periodically active areas and would avoid the largest depicted area of airspace (even if some sections are closed/inactive), because they are so concerned about implications of airspace incursion enforcement by CAA.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

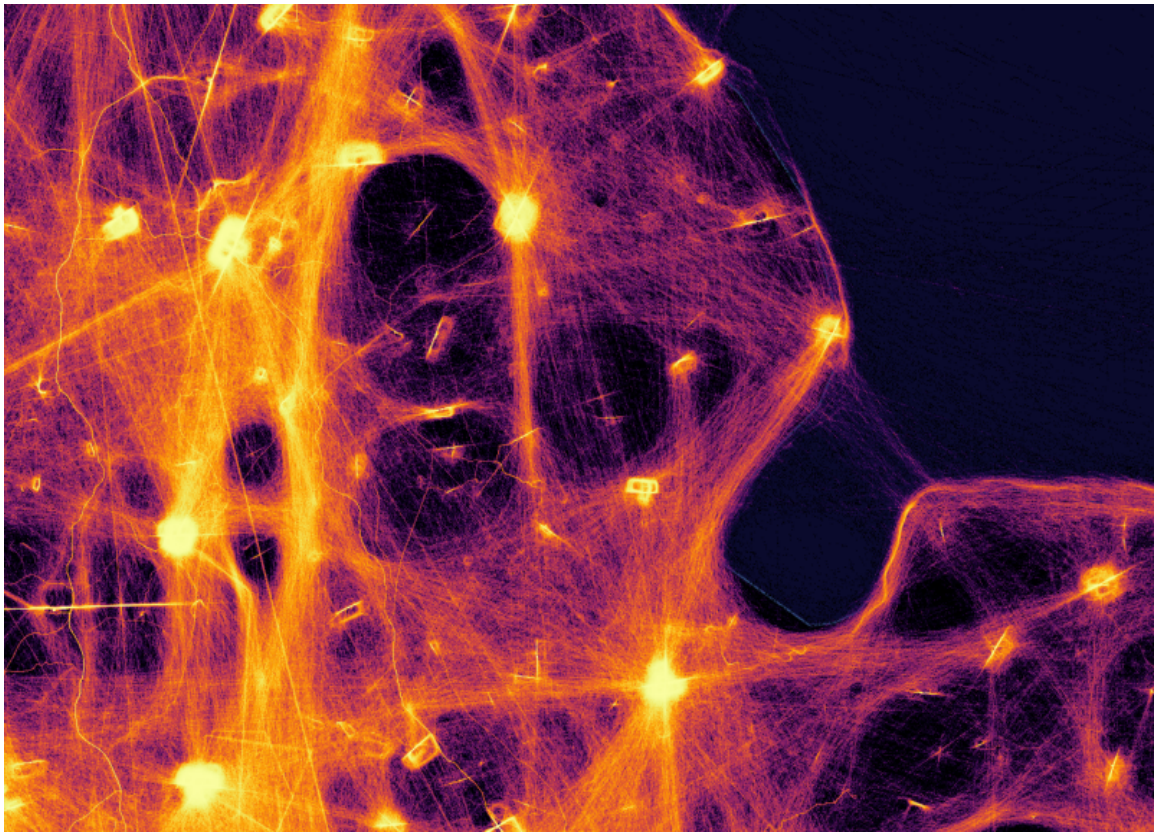
Yes it would impact operations from Rectory Farm.

The presence of restricted airspace will require re-routing of flights departing eastwards from our strip at Newark and negatively affect availability of our Low and Medium level training area whenever that restricted airspace is active. (Currently, even in the absence of ATC, we have the option to overfly Waddington MATZ is a preferred routing east from Newark to avoid R313 and also remain clear of gliding activity at Cranwell North). FASVIG/Skydemon have produced ‘heatmaps’demonstrating the effect on concentrating traffic due to airspace design. (I also attached a Skydemon heatmap of traffic in the Caranwell area – showing traffic from April 2020).

It is of utmost importance that these aids to planning be reviewed and heeded before designing and implementing restreicted airspace that would further confine flow of GA traffic into a reduced volume of Class G airspace in this area.

A major concern would be if R313 and Scampton ATZ/MATZ were not to be dis-established and co-exist with the prosed changes for Waddington airspace, in which case new airspace would be a greatly increased obstacle to avoid when routing eastward.

New restricted airspace at Waddington will significantly increase the amount of en route traffic passing west side close to Newark/Rectory Farm strip, with consequent increased risk for local GA users in this area. It is negligent of the airspace proposal not to consider the ‘knock on effect’ that establishing airspace has on other users.



Unrestricted access to Temple Bruer, that Rectory Farm users currently freely enjoy will become problematical if new airspace greater than 5nm radius of Waddington is implemented, unless there is mechanism e.g a Letter of Agreement permitting access during notified active hours in place.

Financial implications:

Activity of GA is a significant contributor to the local economy and any reduction of availability, or perceived reduced amenity value to local GA pilots/operators that arises from restricted airspace, will negatively affect local airfields as a base from which pilots will chose to conduct their GA activities.

Rectory Farm fuel sales have been significantly affected downwards due reduced visitor numbers over the last two years due Covid, and we really do not want further restriction (or perceived reduction in desirabilty to visit) this airfield as we attempt to recover from the effects of Covid restrictions..

Mitigation:

In mitigation, it is important to implement the minimum volume of airspace, keep it a simple a shape as possible, and to provide ready access to that airspace by ALL GA users whenever RAF activity is not occurring therein. This should be by means of continuous ATC cover when airspace is notified active and minimizing the notified hours of activiation when not required for operation of Protector or RAFAT.

If you are a pilot do you routinely:

- Operate an airband radio? Yes ~~No~~
- Operate a transponder? Yes ~~No~~
- Speak to ATC? Yes ~~No~~
- Fly above FL50? Yes ~~No~~
- Fly above FL100? ~~Yes~~ No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 Five- ten times/month (seasonally dependant)
- Options 7 – 8 Normally three to five times/yr – usually for air testing and high altitude familiarisation/training purposes – albeit this activity has been (temporarily) reduced from Rectory Farm over the last 18months because of reduced access to Alpine mountain flying trips due Covid restrictions.

Any other feedback

Please do feel free to contact me directly at any point if there is anything you would like clarification on within this response and also keep me informed of future developments with regard to this ACP via the email address for me that you have on record.

Archived: 09 January 2022 14:37:22
From: UASCDC-ACP
Sent: 09 January 2022 14:36:00
To: [redacted]
Subject: UC FW: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Response requested: No
Sensitivity: Normal

Dear [redacted]

Please find below the response received at the back end of last year regarding how HeliAir activity would be managed within any segregated airspace implemented for Protector and/or Red Arrows. I hope you find this acceptable. We will be in touch later this Spring to ensure all bases are covered. In the meantime please do not hesitate to get in touch with me if you have any further concerns.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 17 December 2021 11:10
To: Qinetiq-UASCDC-ACP <uascdc-acp@qinetiq.r.mil.uk>
Cc: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi [redacted]

I anticipate that Heli Air's operation will not be affected by the airspace – their transits will be coordinated through the ATZ, MATZ and any new established airspace as per SOP.

The inclusion of RAFAT in this ACP is probably the most relevant change which may result in Heli Air being held off during display practices. Display practices are roughly 20-30 minutes in duration and cannot be stopped or adjusted unless for Cat A, some Cat B and emergency aircraft.

I don't anticipate the operation of Protector impacting on Heli Air's operation in any significant way, this activity will be coordinated as per SOP.

[redacted]

[redacted] Air Traffic Control | RAF Waddington, Lincoln, LN5 9NB | [redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.r.mil.uk>
Sent: 17 December 2021 10:54
To: [redacted]
Subject: FW: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Hi both,

For info. I'm away at the mo, but just sending through to get comment before you all disappear (if you haven't already). Can you advise how Heli Air will be managed in the segregated airspace?

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

From: [redacted]
Sent: 03 December 2021 14:35
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>; UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir,

Please find attached our response along with kmz and pdf files showing our pipeline routings. Should you have any queries or wish to discuss this in more detail please do not hesitate to contact me.

Kind regards,

[redacted]
Director : Chief Pilot

Heli Air Limited

[redacted]
www.heliair.com

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Heli Air Ltd
Registered Office: Wellesbourne Airfield, Loxley Lane, Wellesbourne, Warwickshire CV35 9EU
Registered Number: 2028932

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Date: Friday, 26 November 2021 at 17:55
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD) in association with airspace change ACP-2019-18.

ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

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Archived: 09 January 2022 14:31:02
From: UASCDC-ACP
Sent: 17 December 2021 10:51:00
To: [redacted]
Subject: RE: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback which I will share with Waddington ATC and get back to you with a fuller response. Every effort will be made to enable your operation to continue with minimum disruption.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 03 December 2021 14:35
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>; UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir,

Please find attached our response along with kmz and pdf files showing our pipeline routings. Should you have any queries or wish to discuss this in more detail please do not hesitate to contact me.

Kind regards,

[redacted]
Director : Chief Pilot

Heli Air Limited

[redacted]
www.heliair.com

Heli Air
Helicopters Nationwide

BEA

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Heli Air Ltd
Registered Office: Wellesbourne Airfield, Loxley Lane, Wellesbourne, Warwickshire CV35 9EU
Registered Number: 2028932

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Date: Friday, 26 November 2021 at 17:55
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

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ACP-2019-18 was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. You have been identified as a stakeholder in this airspace change, having either been involved in the design principle stage of ACP-2019-18 in late 2019, or more recently in the submission to the Civil Aviation Authority (CAA) earlier this year for a temporary danger area at RAF Waddington for the operation Protector's prototype, SkyGuardian.

The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD. Stage 2 engagement material is attached, providing a range of comprehensive airspace design options. The MOD is seeking your feedback on the options presented.

In addition, the letter explains that in recent months a requirement has emerged for the RAF Aerobatic Team (RAFAT) to be able to access airspace over RAF Waddington to conduct flying display activity from late 2023. The MOD feels that the best way to manage this new requirement is to combine both the Protector and RAFAT requirements within one airspace change. The Change Sponsor for ACP-2019-18 has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com

UAS CDC

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ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Heli Air Ltd
Address (including postcode if possible)	Wellesbourne Airfield Loxley Lane Wellesbourne CV35 9EU
We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.	
Do you have any comments on the design principles?	
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).	

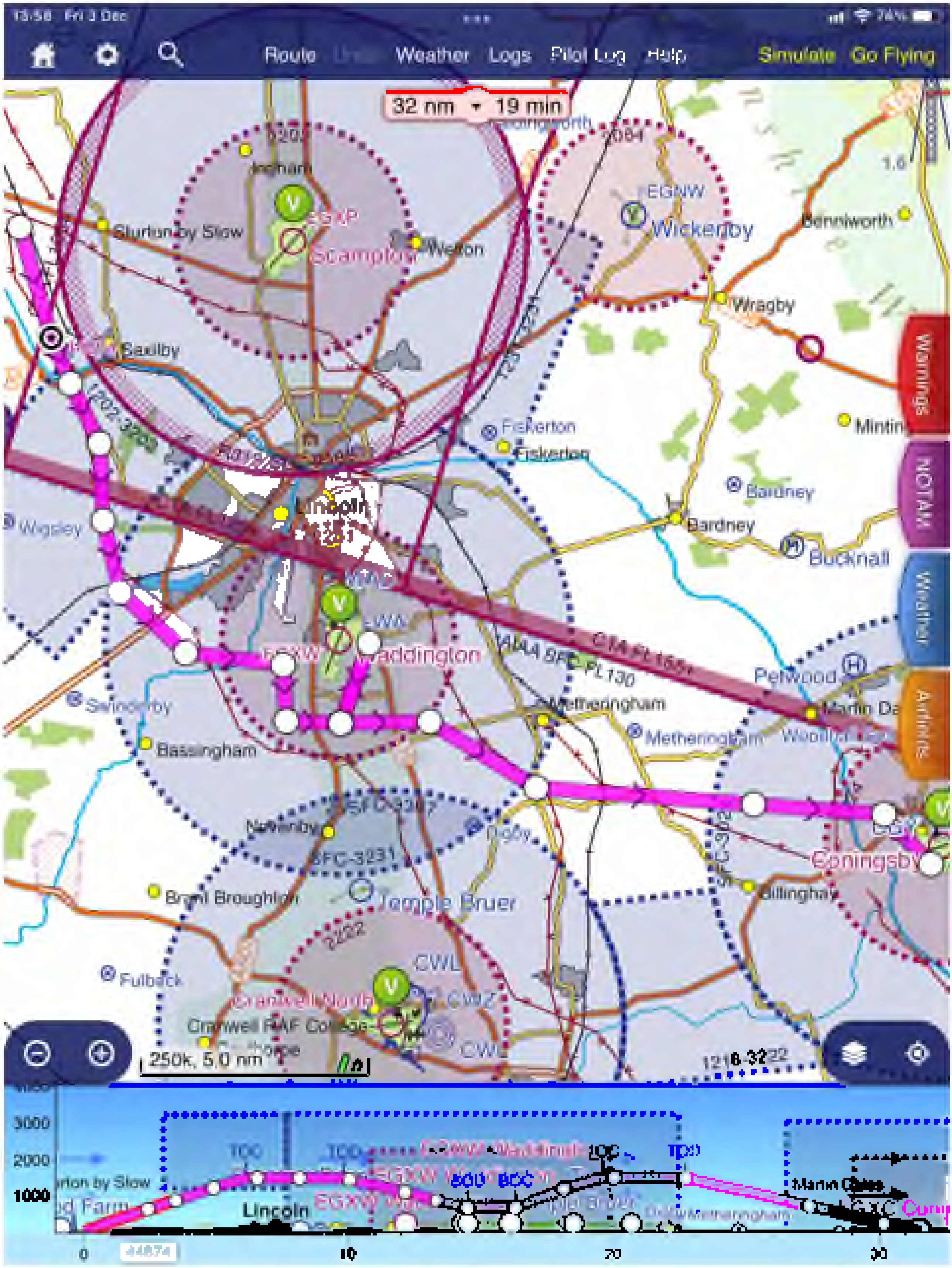
Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).
What is your biggest concern, if any, about this ACP?
Gaining access to conduct the pipeline survey when the airspace is active
Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?
If you are a pilot do you routinely: • Operate an airband radio? Yes • Operate a transponder? Yes • Speak to ATC? Yes • Fly above FL50? No • Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

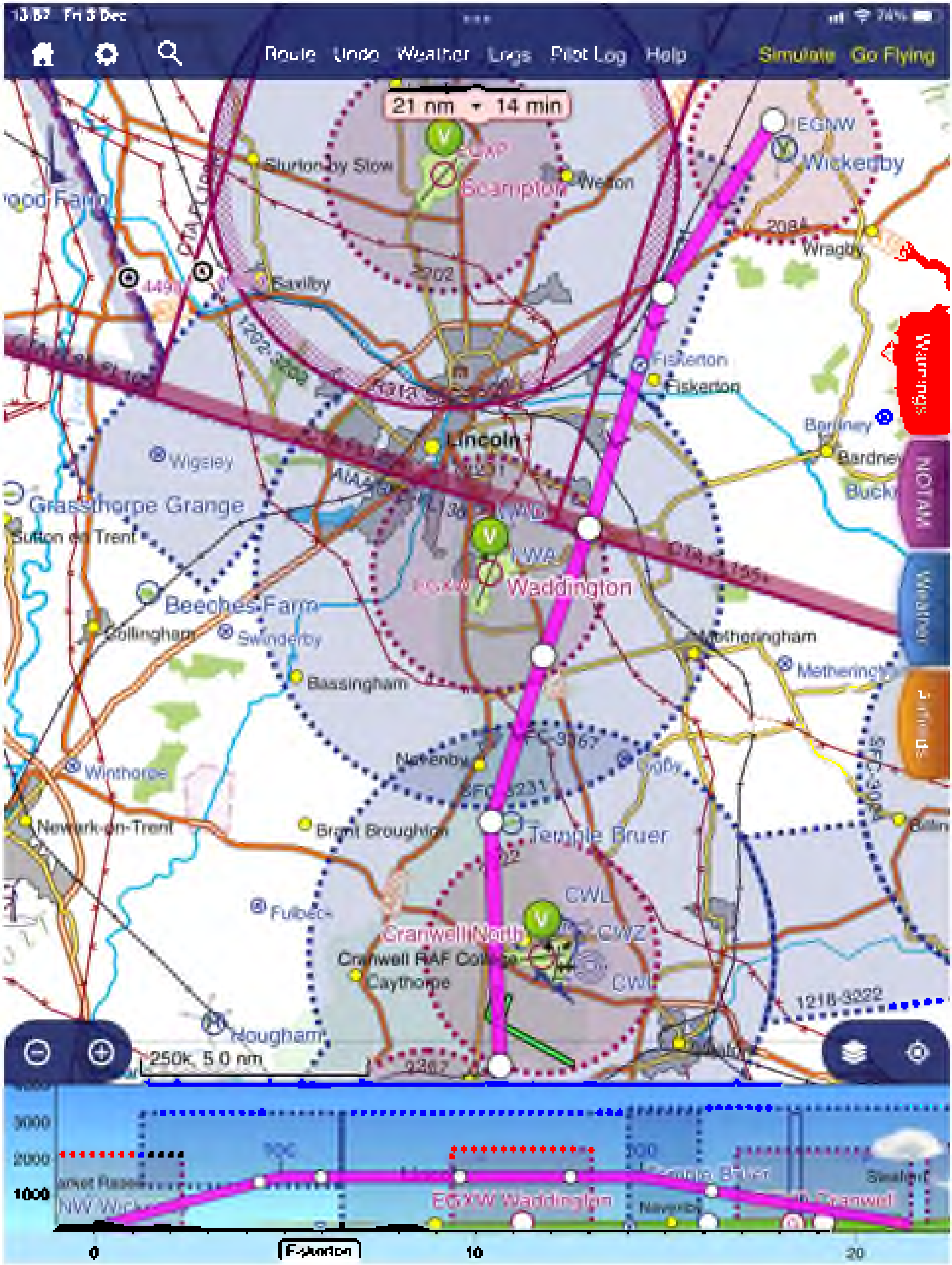
- 1 day per week

Any other feedback

We have 2 pipelines to patrol and would require access through the MATZ and ATZ. The pipelines are classed as part of the National Infrastructure and have to be surveyed to ensure their safety and integrity. They are flown at around 600ft agl. I have attached 2 kmz files and 2 pdf's to show the routing of the pipelines.



Route
Weather
Logs
Pilot Log
Help
Simulate
Go Flying
32 nm
19 min
EGNW
Wickenby
Bennlworth
Wragby
Sturton by Stow
Scampton
Welton
Saxilby
Fiskerton
Lincoln
Bardney
Bucknall
Wigsley
Waddington
CTA FL165
Metheringham
Swinderby
Bassingham
Navenby
Digby
Brant Broughton
Temple Bruer
Fulbeck
Cranwell North
Cranwell RAF College
Coningsby
Billinghay
Martin Dales
Warnings
NOTAM
Weather
Airfields
250k, 5.0 nm
3000
2000
1000
TOC
TOD
Lincoln



Route
Undo
Weather
Logs
Pilot Log
Help
Simulate
Go Flying
21 nm
14 min
EGNW
Wickenby
Sturton by Stow
Scampton
Wragby
Saxilby
Fiskerton
Lincoln
Wigsley
Grassthorpe Grange
Sutton on Trent
Waddington
Beeches Farm
Swinderby
Bassingham
Metheringham
Navenby
Winthorpe
Newark-on-Trent
Brant Broughton
Temple Bruer
Fulbeck
Cranwell North
Cranwell RAF College
Caythorpe
Hougham
250k 5.0 nm
Warnings
NOTAM
Weather
3000
2000
1000
0
10
20
EGXW Waddington

Archived: 09 January 2022 16:33:26
From: UASCDC-ACP
Sent: 09 January 2022 16:33:00
To: [redacted]
Subject: RE: UC ACP-2019-18 comments/ Stakeholder engagement
Sensitivity: Normal

Dear [redacted]

Many thanks for your email and apologies for the delay in acknowledging your comments. The festive season seems to have got in the way again. I am currently collating all feedback and will be delivering the engagement analysis to the CAA at the end of next week. I will advise when this has happened and upload a copy to the ACP portal.

You will not be surprised to hear that your feedback is in concert with several other airspace users and will be duly represented in the submission.

I will be in touch with further progress in due course.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 17 December 2021 23:17
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP-2019-18 comments/ Stakeholder engagement

Hi,
Please find following my comments on your proposal for ACP 2019-18 revision to accommodate the RAFAT and Protector.

1. I agree that a Temporary Danger area is the preferred choice of airspace structure that should be used

2. any TDA must be activated by Notam only at least 24 hrs in advance and there be a new Notam issued each day to cover the following day's activities, no blanket Notams covering days or weeks at a time. Each day should be divided into 2hr blocks and only blocks that need to be activated should be used, the rest of the day the TDA should be inactive. As the area at very low level that should be needed for Protector is very different to that required by the RAFAT, there should be separate Notams activating each version of the TDA.

3. Introduction of any TDA for the RAFAT at Waddington should be conditional on EG R313 being removed completely, or at least the designation changed to also be a TDA activated by Notam. The Scampton MATZ and ATZ should also be removed once the RAFAT move to Waddington.

3. Any airspace required for Protector should be activated separately and does not need to be the same as that for the RAFAT.

The preferred solution must be that the autonomous Detect and Avoid system on Protector is fully certified so that no specific TDA is required. The MOD has already had some time to do this ands thus should be given a time limit within which to get the Detect and avoid certified and fully operations, after which if it is not operational, the TDA should be withdrawn and Protector moved to a dedicated drone testing site such as Boscombe down or Aberporth where it can be flown until the work is completed. I suggest that the cut off date is Dec 31 2022, giving a full year to get the work done.

4. I am only concerned by the low level airspace and infact the lowest levels of this. I see no reason by any of the options given by MOD should have the 5 or 6 mile ring for Protector extending down the the surface and I dont see why it needs to be a ring at low level, say below 2000ft. Traditional ATZs and MATZ were circular, to take into account multiple direction runways and their circuits, Waddington has only one runway, so at low level the TDA should be a narrow rectangle along the runway extended centerline.

5. The proposal states that Protector will follow a pre-programmed flightpath, but I see no evidence to show why it needs to do a long final approach from 5.5 miles, or fly a rectangular circuit, both seemingly based on large old commercial aircraft procedures. I do no know the capabilities of Protector, but I am sure it doesnt need to do a shallow 3 degree final approach and doesnt need any level segment before commencing the final descent from a low platform altitude (even as low as MSA) as was traditional for RAF transport aircraft and commercial airliners from the 1970s, but unfortunately still defines airspace planning today. Todays airliners can carry out continuous descent approaches from high altitude picking up the glideslope without ever levelling and slowing down during the descent, this is a very regular occurrence at LHR and LGW without problems and surely the Protector has even better capability and can also do this on a spiral descent. Surely it doesnt need to be on the extended centerline at 5.5 miles, it can be on a curved approach to 2 or 3 miles from the runway. I would imagine it is also capable of a much steeper approach that 3 degrees probably 5 or even 7 or more degrees.
Thus probably the only area of TDA airspace required below 1500ft would be a narrow rectangle 3 or 4 miles extended from each end of the runway 1 mile wide, above this altitude a wider TDA area could be accepted to encompass the spiral climb and descent. Figures to be defined using actual performance.

Even if MOD decide that Protector does need to fly a big rectangular circuit pattern, this could easily be at 2000ft before commencing the final descent, again only requiring a much smaller area of TDA below 1500ft.

The airspace design should be based on Protector's capabilities, not legacy aircraft procedures. A fundamental point of CAP 1616 is that "any new airspace should use the minimum volume necessary" and that means the minimum volume based on the aircraft's capabilities and needs, not trying to fit it to old legacy procedures.

6. There needs to be considerations for Temple Bruer airfield which lies just outside your 5 mile ring, a low level corridor needs to be provided for Temple Bruer arrivals and departures to be carried out without needing to contact Waddington.

7. As is stated in your proposal, the TDA should only be active during times of Waddington ATC operation and there should be a Danger area crossing service available at all times, the only pre-requisite for crossing clearance should be radio contact, no requirement for any Transponder or other electronic devices.

8. of the choices given low level Option 1 would be preferred, but none are really acceptable because of the unnecessary excess of airspace taken below 1500ft. The requirements of Protector and the RAFAT at the lowest levels are so different, that two different airspace structures should be produced and only the one relevant to each operation activated as appropriate.

Best regards

[redacted]
Private pilot and aircraft owner (former commercial pilot)

Although I dont live close by, I fly in the area a number of times during the year.

Archived: 09 January 2022 15:30:08
From: UASCDC-ACP
Sent: 17 December 2021 10:41:00
To: [redacted]
Subject: RE: UC ACP -2019- 18 Response.
Sensitivity: Normal

Dear [redacted]

Thank you for your email. This is just to acknowledge receipt of your feedback. I am away at present but will respond as appropriate next week.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

-----Original Message-----
From: [redacted]
Sent: 11 December 2021 11:13
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP -2019- 18 Response.

Regards… [redacted]
Sent from my iPad

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	Myself and Other Temple Bruer based Pilots
Address (including postcode if possible)	[redacted]

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

DP(a) – The risk to those on the ground would appear to be substantially increased by the decision to propose RAFAT training over an area with a significant population living in an ever expanding urban sprawl.

DP(d) – The enormously extended ATLC pattern for Protector when compared to SkyGuardian operations seen in Aug/Sept 2021, forces the extension of the proposed Danger Area such that the impact on other airspace users is anything but minimized.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Option 1 Low is the only design that minimizes impact on Temple Bruer and is therefore preferred.

All other Options are larger or more complicated than the apparently acceptable TDA established for SkyGuardian trials in Aug/Sept 2021.

All options other than 1 will disrupt activities at Temple Bruer and will necessitate considerable communication with Waddington ATC.

Since direct RT between Waddington and aircraft on the ground at Temple Bruer is not possible, the workload on Controllers will be further increased by the need for pre flight telephone conversations.

Medium Design Options 7 and 8 are of no direct concern as the types of aircraft operating at Temple Bruer rarely, if ever, operate above 9500ft AML.

Feedback on preferred type(s) of segregated airspace to be implemented

(including order of preference and rationale, if appropriate).

My preference is for the operating parameters of Protector to be revised to enable operation within the 5nm circle proposed in Option 1 Low.

The current description of the Protector ATLC pattern indicates an unreasonably lengthened circuit especially when compared to those routinely flown by very large aircraft at Waddington.

I believe to minimize the impact of this ACP, the discussions between RAF and the manufacturers to revise the ATLC should be given top priority and be pursued with great vigour.

Any of the 6nm circle options will impact on Cranwell North Gliding and on passing GA traffic routing between Waddington and Cranwell. The more 'pinched' such routes become, the greater is the risk of collision or infringement.

What is your biggest concern, if any, about this ACP?

My biggest concern is the impact on Temple Bruer Airfield and its users.

At the very least the Proposed DA will add another layer of control and potential disruption to our operations.

In the extreme, with Temple Bruer sited inside the DA, the very future of the airfield will be in doubt. This would have serious financial repercussions for those involved.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

I have described possible impacts above, however, I am also concerned about the intention to use the proposed DA for RAFAT training. There is always a significant risk of accident with high energy flying maneuvers. A large part of the DA is over densely built up areas, especially in its North Western Quadrant and there are also plans for very large developments just to the North East of Waddington Airfield. It is not appropriate to subject these local populations to these risks.

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes
- Speak to ATC? Yes
- Fly above FL50? Yes
- Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 Between 2 and 4 times per week.
- Options 7 – 8 Never.

Any other feedback

The SkyGuardian Trial in Aug/Sept demonstrated that RPAS could operate from Waddington with little impact on local airspace users. It is to be hoped that the lessons learned then can be applied to enable a similar outcome for this ACP.

The loss of a significant amount of Class G Airspace is to be regretted and perhaps, if Protector had been specified with full See and Avoid capability from the start, this loss would have been unnecessary.

The GA community has been under great pressure to improve electronic conspicuity supported by DoT grants and the CAA. It would be entirely reasonable to expect Military Aircraft, including Protector, to be similarly equipped where appropriate.

Archived: 09 January 2022 15:52:10
From: UASCDC-ACP
Sent: 15 December 2021 08:58:00
To: [redacted]
Subject: RE: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1
Sensitivity: Normal

[redacted]

Thank you for responding likewise!

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

Please consider the environment before printing this email.

From: [redacted]
Sent: 15 December 2021 08:55
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: Implementation <Implementation@huntingdonshire.gov.uk>
Subject: RE: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Dear [redacted]

Thank you for providing this information and I am pleased to confirm that I have no concerns about noise in relation to these proposals.

Best regards,

[redacted]
Community - Environmental Protection Officer
Huntingdonshire District Council
[redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 14 December 2021 18:42
To: [redacted]
Subject: RE: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

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

Dear [redacted]

Please find attached the documentation as requested. I note that [redacted] requested the documentation yesterday afternoon. Apologies, I was not at my desk today until now!

I think you will see fairly quickly, that there is unlikely to be any noise over your area of responsibility. You were contacted to tie off the loose ends following your engagement in the original Red Arrows ACP.

If you need more time to respond, please just let me know.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 14 December 2021 12:54
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: FW: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

FAO The Airspace Change Manager

Dear Sir/Madam

Thank you for consulting us on this important matter. Unfortunately I only received your e-mail yesterday after it had bounced around our council for a few days. Furthermore, the information to be considered was not attached to the e-mail and it appears that my colleague has requested it from you again. It is likely we will not have time to formulate a response by the deadline on Friday. My main concern is about noise in our quiet rural district so we would need to know the location, likely sound level and frequency of occurrence of any aerial manoeuvres.

Best regards,

[redacted]
Environmental Protection Officer
Chartered Environmental Health Practitioner
Huntingdonshire District Council
Pathfinder House
St. Mary's Street
Huntingdon
[redacted]

CEnvH Chartered Environmental Health Practitioner

Huntingdonshire DISTRICT COUNCIL

From: [redacted]
Sent: 13 December 2021 17:15
To: [redacted]

Cc: [redacted]
Subject: FW: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Dear [redacted]

Please see the emails which we have received from UASCDC (below), which I am forwarding to you in case they are of relevance to your team (particularly in the context of noise). As we have nothing to add from Planning, please could we leave this matter with your team?

Please be aware that I have requested the letter mentioned in the email of 30th November and that I have advised UASCDC that a response will be provided to UASCDC by close-of play on Friday (please see the attached email). Once we receive the letter which I have requested, I will forward this to you.

Should you have any questions, please do not hesitate to ask us.

Thank you and kind regards,

[redacted]

Administration Assistant
Implementation Team
Planning Services
Huntingdonshire District Council

[redacted]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 03 December 2021 11:08
To: Mail [redacted]
Subject: RE: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Dear [redacted]

The most appropriate department would be Planning.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: Mail <[redacted]
Sent: 02 December 2021 14:32
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: FW: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Dear [redacted]

Thank you for your email. In order for me to assist you further, please could you advise me which department this is intended for? This will ensure that I can bring it to their attention.

Yours sincerely,

[redacted]
Customer Service Advisor
Huntingdonshire District Council

For key guidance and support about Coronavirus (Covid-19) in Huntingdonshire please visit https://www.wearehuntingdonshire.org/

Do you have a Customer Portal Account?
To register, just go to my.huntingdonshire.gov.uk to access information and request services 24/7, 365 days a year

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From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 30 November 2021 17:05
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC RE:ACP-2019-18 - Stage 2 Stakeholder Engagement Material V1.1

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Dear all,

Apologies, but the engagement letter sent out on 27 Nov 2021 contained some broken cross references to Figure captions in paragraphs 9.2 and 9.4. These have been corrected and are annotated in Version 1.1 (attached) by a line in the left hand margin. The corrections are minor in nature, but make for a clearer read of the document. The CAA ACP online portal has also been updated with V1.1.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]

Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: UASCDC-ACP
Sent: 26 November 2021 15:19
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: UC ACP-2019-18 - Stage 2 Stakeholder Engagement Material

Dear Sir or Madam,

I am writing to you on behalf of the Ministry of Defence (MOD), since you were identified as a stakeholder in an airspace change proposal which was commenced in 2019 (reference number ACP-2019-72), regarding the relocation of the training airspace for the Royal Air Force Aerobatic Team (RAFAT). This airspace change proposal was subsequently withdrawn, as access to the current volume of restricted airspace overhead RAF Scampton (namely EG R313) was thought to be assured for future needs.

As the availability of EG R313 once again cannot be guaranteed, the requirement has again emerged for RAFAT to be able to access airspace at another location in the UK, for future use as display training airspace,. Assessment of the viable opt i ons f o RAFAT indicate that access to airspace over RAF Waddington would be benef i ci al t ot het ea m The MOD feels that the best way to manage this is to combine the RAFAT requirement with an ongoing airspace change for RAF Waddington. The Change Sponsor for this airspace change proposal (ACP-2019-18) has consulted with the CAA on how best to manage this; the attached letter details the agreed way ahead.

If you engaged directly with the MOD through the withdrawn RAFAT airspace change proposal, you might be interested to take a look at the rationalisation of the sets of design principles provided in the attached letter. The MOD would be pleased to receive any feedback you would like to provide on this or on the airspace design options presented. You are not obliged to respond. If you do not, the MOD will assume that you are content with the design principles rationalisation, in particular. Please also advise if you no longer wish to be contacted by the MOD. This may be particularly applicable to those stakeholders in the RAF Leeming or RAF Wittering area.

For information, the ongoing airspace change proposal (ACP-2019-18) was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at Royal Air Force (RAF) Waddington in the early 2020s. The ACP is in Stage 2 of the airspace change process as defined in Civil Airspace Publication (CAP)1616. The Change Sponsor is the MOD.

Information on your role in this process is contained in the letter as well as full details on how to provide feedback or comment. Should you wish to comment on the design principle rationalisation and/or the airspace design options proposed please do so by email. A Feedback Response Form is included in the letter and is also attached to this email in Word format, which you might find preferable to use.

Responses to the attached material should be mailed in time to reach the MOD by **Friday 17 December 2021**.

Email responses should be sent to:

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

This process is being managed by the Defence Unmanned Air Systems Capability Development Centre for and on behalf of the MOD.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

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Archived: 09 January 2022 18:08:42
From: [redacted]
Sent: 15 December 2021 13:49:35
To: [redacted]
Subject: 20211215-Waddington ACP Design
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form (3 FTS Phenom).docx ;

[redacted]

PSA the operator response from 45 Sqn.

Best Regards

[redacted]

[redacted] 3 FTS | Sykes Building | RAFC Cranwell | SLEAFORD | NG34 8HB | [redacted]

45 Sqn Mission: To deliver safe, timely, and world-class training for the RAF's future multi-engine pilots, mission aircrew, and airborne specialists.

Team 3 FTS Mission: To train the future pilots and mission crew of the UK Armed Forces and international partners.

Core Principles: Safety (We are training and not on operations); **Efficiency & Effectiveness** (Continuous Improvement must be part of our daily routine**); Happiness & Wellbeing** (Happiness is directly related to performance. The right people in the right frame of mind, doing the right jobs, with the right training and right resources); **Recognition & Reward** (Ensuring we recognise all who go above and beyond).

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	3 FTS Phenom (RAF Cranwell and Barkston Heath)
Address (including postcode if possible)	Sykes Building RAF Cranwell Lincolnshire NG34 8HB

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

The main principle should be simplicity – the design of airspace should be as simple as possible with clear boundaries which are easily defined, understood and promulgated. Local area airspace is already congested and confusing so we should avoid multiple areas which are activated based on aircraft type. For simplicity and to avoid infringement, a single area of airspace that is either hot/cold

The impact should be the minimum required to achieve the desired effect.

The airspace, whichever design is selected, should be integrated to be visible on in-cockpit displays that are easily identifiable and obvious to crews in flight.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

LOW Airspace

Option 1 The airspace has the least impact on surrounding areas and the lateral boundaries are coincident with known airspace structures (MATZ). However, it will potentially impact the availability of the CWL MID1C and any RH turn to the NE following a MID1 unless above 9500'. Thereby funneling all MID traffic heading NE to the S initially or forcing it between 9500' and FL125. It will also impact the availability of WAD PDs.

Option 2, It doesn't fit with the normal MATZ boundaries and will open up the possibility for error if crews assume they can operate up to the 5nm boundary. Similar impact regarding Option 1 regarding MIDs, PDs & potentially impacting the NDB 3 to ILS RW 26 Hold. Funneling of aircraft returning visually from the NE between the airspace and CGY MATZ.

Options 3-6 all introduce increasing levels of airspace complexity which may create confusion. Impacts to MIDs, PDs & funneling of aircraft as above.

MEDIUM Airspace

Option 7 Will impact Phenom Operations with most of our GH conducted FL80-120 & preferably above FL100 to avoid confliction with GAT & Prefect/Tutor traffic. Access to /from GAM Radar Corridor would be hampered.

Option 8 Will impact access to/from the LIC & GAM radar Corridor and restrict access to the airways at TNT, our usual entry to CAS. It will force our GH down into Prefect/Tutor GH airspace and potentially increase the risk of LoSS.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

Least Impact assessed at this stage as Option 1.

What is your biggest concern, if any, about this ACP?

My biggest concerns are:

1. Multiple airspace options that change both laterally and vertically can lead to confusion and inadvertent infringement.

2. The loss of the airspace above 9500' will hamper our route access to/from RC and CAS. Furthermore, our GH would be forced down into the lower levels where GAT & Prefect/Tutors routinely operate. Thereby increasing the risk of LoSS.

3. Loss of PD options with WAD & SCA now unavailable, and impact to local 'free' airspace, we are forced further afield impacting sortie completion & sortie lengths.

4. With the LOW options, access to/from the NE funnelling of aircraft during the departure/recovery phases. Especially when CGY extend their airspace up to FL100 during display practices/performance take-offs and/or the Sterile Area is activated. Potentially increasing the risk of LoSS.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

Any consideration be given to retaining the airspace contained within R313? This is a known already existent entity that crew are familiar with that offers minimal impact.

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes
- Speak to ATC? Yes
- Fly above FL50? Yes
- Fly above FL100? Yes

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? • We operate approx. 12 per day with the potential for 16. Flying routinely Mon-Fri 0800-1730. Night flying approx. 3 nights every 2 months 1900-2330. • Options 1 – 6 We use the LOW airspace for PD to WAD to export visual and instrument circuit serials. Approx. 1-2 sorties per day. Transiting over the current WAD MATZ or departing on CWL MIDs for 90% of sorties flown. • Options 7 – 8 As above, we routinely operate in the FL 80-120 bracket for all GH sorties, approx. 80% of sorties, with access to CAS/RC required for the remaining 20%.
Any other feedback
We appreciate the early and comprehensive engagement which has allowed us to collate a response.

Archived: 09 January 2022 18:02:44
From: [redacted]
Sent: 13 December 2021 11:41:59
To: [redacted]
Subject: RE: Waddington ACP Design Options
Response requested: Yes
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form (3 FTS Prefect).docx ;

[redacted]

PSA my comments from a Prefect operator's perspective.

[redacted]

Please feel free to add additional comments as necessary. I will forward you the original email under separate cover.

Kind regards,

[redacted]

[redacted] 3 FTS | Sykes Building | RAFC Cranwell | SLEAFORD | NG34 8HB | [redacted]

Team 3 FTS Mission: To train the future pilots and mission crew of the UK Armed Forces and international partners.

Core Principles: Safety (We are training and not on operations); **Efficiency & Effectiveness** (Continuous Improvement must be part of our daily routine**); Happiness & Wellbeing** (Happiness is directly related to performance. The right people in the right frame of mind, doing the right jobs, with the right training and right resources); **Recognition & Reward** (Ensuring we recognise all who go above and beyond).

3FTS MILITARY FLYING TRAINING 100 Yrs

From: [redacted]
Sent: 01 December 2021 09:03

To: [redacted]

Subject: FW: Waddington ACP Design Options

All

In case you have not received this via 22 Gp/DFT/RAFGSA/RAFSA, stakeholders are being asked to provide feedback on Stage 2 (design options) of ACP-2019-18 - the creation of airspace over RAF Waddington for Protector and RAFAT. Full details are at Tile 2 or on the CAA website [Airspace change proposal public view (caa.co.uk)]

CRN Ops Wg will submit a response to articulate the impact to the aerodrome, visual circuit, instrument approaches and MIDs. However, you may have additional comments that you wish to make wrt the impact upon your en-route flying. On the assumption that 6 FTS will want to provide a consolidated CRN/WIT response and that the Flying Club/RAFSA may also want to provide a consolidated regional comment, my recommendation is that we all provide separate responses on the form at Tile 1, rather than attempt a single CRN return. [redacted] (contact details below) at DAATM will eventually collate all the responses into a single MOD return. The deadline for returns to him is COP 15 Dec 21.

Thanks

[redacted]

[redacted] | RAFC Cranwell | Sleaford | Lincolnshire | NG34 8HB | [redacted]

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]

Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

[redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	3 FTS Prefect (RAF Cranwell and Barkston Heath)
Address (including postcode if possible)	Sykes Building RAF Cranwell Lincolnshire NG34 8HB

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

The main principle should be simplicity – the design of airspace should be as simple as possible with clear boundaries which are easily defined, understood and promulgated. The airspace in the local area is already congested and confusing so we should avoid multiple areas which are activated based on aircraft type. I would much rather see a single piece of airspace which is either hot or cold.

I think the second most important principle should be impact – the impact should be the minimum required to achieve the desired effect.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

LOW Airspace

Option 1 is the clear preference for 2 reasons; firstly, the airspace has the least impact on surrounding areas. Secondly, the lateral boundaries are coincident with known airspace structures (MATZ).

Option 2, whilst still low impact, is less preferable because it doesn't fit with the normal MATZ boundaries and will open up the possibility for error when crews assume they can operate up to the 5nm boundary. Especially when you consider the previous RAFAT airspace was 5nm over Scampton.

Options 3-6 all introduce increasing levels of complexity which will inevitably lead to errors. I would much prefer to see a single piece of airspace which is either hot or cold. The variable options only allow for a minor change in impact but in doing so they create confusion.

High Airspace

Option 7 is obviously less impact than 8 but both offer a simple structure. I would definitely like to see the lower limit raised to FL100. This is the max operating ceiling for Prefect so would make our lives much easier. I know this is slightly selfish, but as the main local airspace users we are the most likely to infringe airspace at 9500'AMSL. Raising the limit to FL100 would remove the potential for a mid-air collision with Prefect. Also, operating on FL rather than AMSL will allow pilots to quickly reference their position versus the

airspace and minimizes the potential for error with air systems operating on different regional pressure settings

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

As above.

What is your biggest concern, if any, about this ACP?

My biggest concerns are:

1. An ACP which is confusing, leading to inadvertent infringement with a commensurate reduction in loss of safe separation which could lead to a mid-air collision.
2. The crossover boundary of 9500ft AMSL. As Prefect operates to a ceiling of FL100, there is a really easy win to be had by aligning the ACP handover altitude to FL100. This will ensure we only have to concern ourselves with the LOW airspace and therefore reduce the potential for LoSS and MAC within the HIGH airspace. This might seem selfish but as one of the main users of the local airspace we should at least consider the proposal.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

Yes, all points captured above.

If you are a pilot do you routinely:

- Operate an airband radio? Yes
- Operate a transponder? Yes
- Speak to ATC? Yes
- Fly above FL50? Yes
- Fly above FL100? No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6 We operate approx. 70 sorties (but up to 92 sorties) per day between Cranwell and Barkston Heath. The large majority of these will operate in the ML environment and approx. one third will operate in Sectors 1 and 2 and hence could conflict with the airspace.

• Options 7 – 8 As above, unless you raise the lower limit to FL100, which will remove Prefect as a conflict completely.
Any other feedback
I appreciate the early and comprehensive engagement which has allowed us to collate a response.

Archived: 09 January 2022 18:04:40
From: [redacted]
Sent: 15 December 2021 21:00:55
To: [redacted]
Subject: Waddington ACP Design Options
Response requested: Yes
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form 6 FTS.docx ;

Good evening [redacted]

PFA the 6 FTS response to the WAD ACP proposal.

Kindest Regards

[redacted]

[redacted]

6FTS Mission: To attract talent to the regular and reserve RAF service and educate selected undergraduates on the role of Air Power, in delivering the nation's defence.

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ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	6 FTS (Senior Operator)
Address (including postcode if possible)	HQ 6 FTS RAFC Cranwell SLEAFORD NG34 8 HB

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

Given the disparate training tasks and aircraft types at CWL, I would recommend making the airspace as simple as possible, wherever possible, mirroring current controlled airspace. Any solution that reduces Class G airspace is likely to increase the MAC risk in an already busy area.

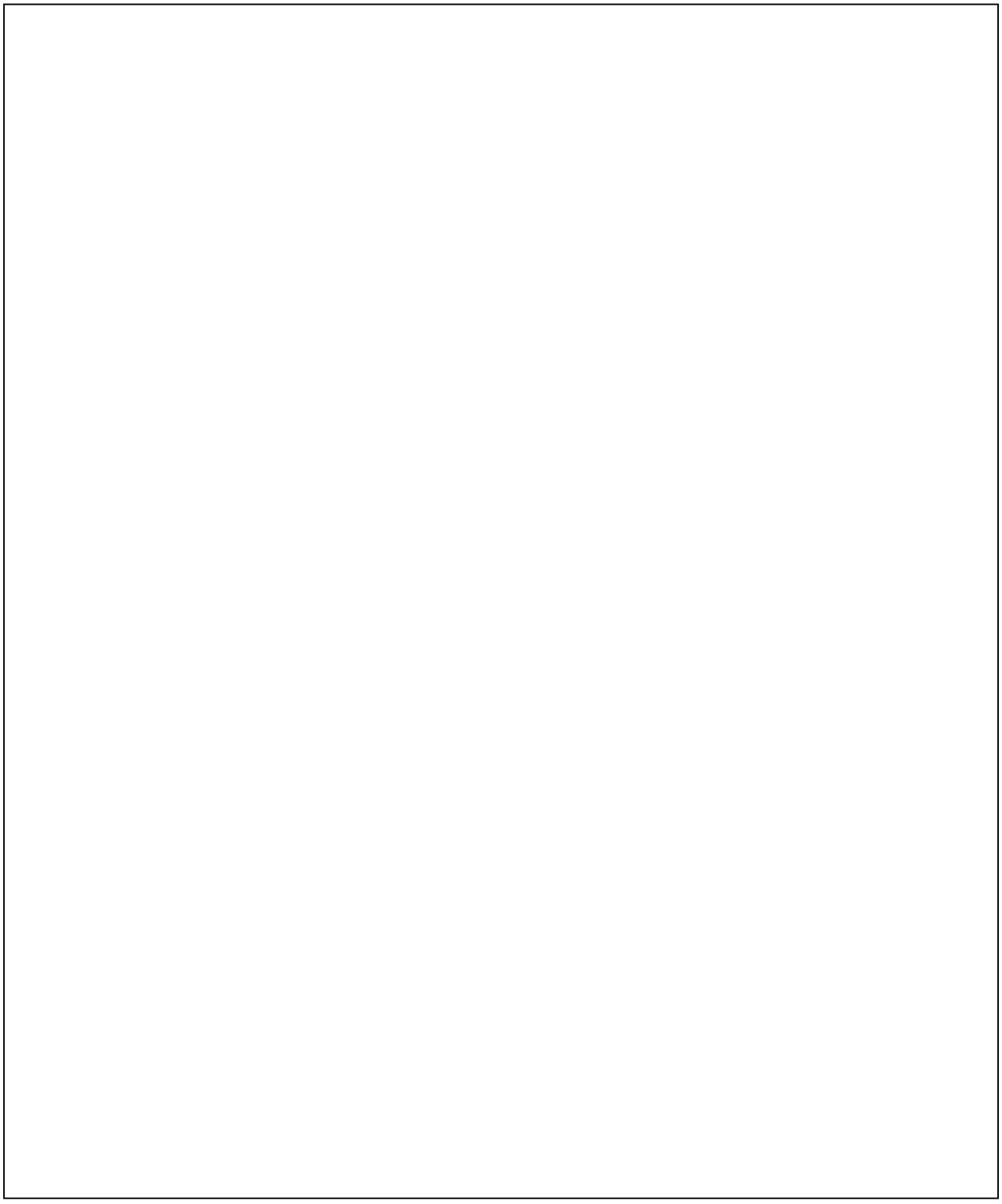
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

Option 1 is the preferred LOW solution as it matches the WAD MATZ and so has no effect on the wider military aviation community.

For the Medium Option, it would be preferable to raise the base of the proposed airspace to 10,000ft; with likely a corresponding increase of the Low airspace to the same level for continuity. This would put the Medium airspace above the maximum operating level for the Tutor; and the majority of other non-pressurised aircraft. For this reason, Medium no preference is stated.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

What is your biggest concern, if any, about this ACP?
Further reduction in Class G airspace available in the area
Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?
It could increase the risk of MAC for 6 FTS platforms, due to increased traffic in the reduced Class G environment.
If you are a pilot do you routinely: • Operate an airband radio? Yes ~~No~~ • Operate a transponder? Yes ~~No~~ • Speak to ATC? Yes ~~No~~ • Fly above FL50? Yes ~~No~~ • Fly above FL100? ~~Yes~~ No
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? 6 FTS OPERATIONS • Options 1 – 6 20/week • Options 7 – 8 Rarely due to platform altitude restrictions
Any other feedback



Archived: 09 January 2022 18:00:37
From: [redacted]
Sent: 01 December 2021 11:52:51
To: [redacted]
Subject: RE: Waddington ACP Design Options
Response requested: No
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form.docx ;

Sir,

PSA my stakeholder response form. Any issues let me know.

Warmest Regards,

[redacted]

[redacted] | 19 Sqn | RAF Boulmer, Longhoughton, Alnwick, Northumberland, NE66 3JF | [redacted]

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	19 & 20 Sqn
Address (including postcode if possible)	19 Sqn Assurance RAF Boulmer Alnwick NE66 3JF
We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.	
Do you have any comments on the design principles?	
Nothing applicable to 19/20 Sqn in the design principles.	
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).	
No issues to 19/20 Sqn with any of the options.	

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).
n/a
What is your biggest concern, if any, about this ACP?
No concerns.
Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?
The only impact for 19/20 Sqn would be during QRA but as with other danger areas we would have awareness and be able to speak to the relevant agency.
If you are a pilot do you routinely: • Operate an airband radio? Yes No • Operate a transponder? Yes No • Speak to ATC? Yes No • Fly above FL50? Yes No • Fly above FL100? Yes No

If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)?

- Options 1 – 6
- Options 7 - 8

Any other feedback

Archived: 09 January 2022 17:43:20
From: [redacted]
Sent: 15 December 2021 17:34:56
To: [redacted]
Subject: RE: Waddington ACP Design Options
Sensitivity: Normal

Sir,

Unless [redacted] has other views on impact on the UKLFS – these plans (all variants) have little impact upon UKLFS usage. Particularly with the flow arrows in place already on the LF charts.

Kind regards,

[redacted]

[redacted] [redacted] 78 Sqn | Swanwick | [redacted]

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

Archived: 09 January 2022 17:34:32
From: [redacted]
Sent: 15 December 2021 15:31:31
To: [redacted]
Subject: RE: Waddington ACP Design Options
Sensitivity: Normal

Basically ugh.

Not sure what more you expected me to say. The impact of the Lower designs is manageable – 9500' is below where we'd normally operate but it will tend to have a funnelling effect on traffic over the top and around the sides of Waddington which could lead to a greater density of aircraft and a concomitantly higher ATC workload with potential safety ramifications. But, as I said, probably manageable, even with relatively frequent activation.

The higher area? Not so much. It's bang slap in the way of aircraft operating in East Anglia (including civil air tests), N-S transit flights and ac positioning to enter or leave Holbeach. The bigger the area: the bigger the (negative) impact. The option which has a 20nm x 20nm square virtually eliminates the western portion of the TDA for normal use which again would have the effect of concentrating activity in other areas leading to potential congestion and increased controller workload. It could also lead to repositioning of flights that would otherwise have operated there, keeping them on frequency for longer and – again – increasing controller workload and lowering overall ATC capacity. I note as well that there is the potential further on for these areas to be active for extended periods with multiple airframes using them.

Sorry [redacted] – having to squeeze this commentary in between meetings and that's probably not how you wanted the response. If there are specific other areas you want me to address let me know but in summary: this one looks painful and if we had our way it wouldn't happen. However that's not exactly a constructive response to an MoD proposal so let me just ask to be kept fully informed and if the opportunity arises later in the process for discussion/negotiation please save 78 Sqn a seat at the table…

[redacted]

[redacted] 78 Sqn/Swanwick Mil | Sopwith Way, SOUTHAMPTON, SO31 7AY | [redacted]

NATS Internal

From: [redacted]
Sent: 15 December 2021 14:29
To: [redacted]
Subject: RE: Waddington ACP Design Options

Thanks.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 15 December 2021 14:17
To: [redacted]
Subject: RE: Waddington ACP Design Options

OK – that focusses the mind somewhat. Will do my best to look at it this pm.

[redacted]

[redacted] 78 Sqn/Swanwick Mil | Sopwith Way, SOUTHAMPTON, SO31 7AY | [redacted]

NATS Internal

From: [redacted]
Sent: 15 December 2021 14:15
To: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

Ideally need them by COP today but latest tomorrow COP please, as I need to get them back to the Sponsor on Friday.

Best regards,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 15 December 2021 14:13
To: [redacted]
Subject: RE: Waddington ACP Design Options

Bah. Never did log onto MoDNet to see the pictures. Added to the to-do list.

[redacted]

[redacted] 78 Sqn/Swanwick Mil | Sopwith Way, SOUTHAMPTON, SO31 7AY | [redacted]

NATS Internal

From: [redacted]
Sent: 15 December 2021 10:34

To: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

Did you have any comments on the designs?

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 30 November 2021 16:30
To: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

Not sure if it's my machine playing silly wotsits but I can't see any of the maps allegedly present in the documentation (page 7-13) – they're just blank boxes. Sadly they're sort of essential to reviewing the proposals. Is it just my copy of the PDF or is there a bigger problem? Either way is there any way around this so I can see them?

[redacted]

[redacted] 78 Sqn/Swanwick Mil | Sopwith Way, SOUTHAMPTON, SO31 7AY | [redacted]

NATS Internal

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the

creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

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Archived: 12 January 2022 10:12:47
From: [redacted]
Sent: 22 December 2021 14:38:00
To: [redacted]
Subject: RE: Waddington ACP Design Options
Sensitivity: Normal

[redacted]

Thank you for your response. I will incorporate the comments into the response I received from DAATM.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

Please consider the environment before printing this email.

From: [redacted]
Sent: 20 December 2021 11:56
To: [redacted]
Subject: RE: Waddington ACP Design Options

Good morning,

PFA RAF Coningsby ATC's response to the ACP design options. Unfortunately, due to the deadline for responses, I was unable to engage with all interested parties within my AOR.

Kind regards

[redacted]

[redacted]ir Traffic Control, RAF Coningsby, Lincolnshire, LN4 4SY
[redacted]

ROYAL AIR FORCE golf **RAFGA Director of Governance**

From: [redacted]
Sent: 16 December 2021 12:37
To: [redacted]

Subject: RE: Waddington ACP Design Options

Hi [redacted]

Just spoken to [redacted] and she is off tomorrow and Monday, so will not be looking at the responses until Tuesday. If you are able to provide a response tomorrow then please send it to me, otherwise please send direct to [redacted] and cc me, by COP Monday 20 Dec.

Many thanks,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 15 December 2021 16:32
To: [redacted]
Subject: RE: Waddington ACP Design Options

Hi [redacted]

Do you think I could have an extension on this deadline? There is a lot to digest and after discussion with the transition team today, I am not comfortable providing a response without further consultation.

Kind regards

[redacted]

[redacted] | Air Traffic Control, RAF Coningsby, Lincolnshire, LN4 4SY [redacted]

RAFGA Director of Governance

From: [redacted]
Sent: 15 December 2021 10:42
To: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

Great, thank you.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sen [redacted]
>
Subject: RE: Waddington ACP Design Options

Hi [redacted]

I've had some, but not all. This ACP significant impacts CON fg. I will provide you something by COP today.

Kind regards

[redacted]

[redacted] Air Traffic Control, RAF Coningsby, Lincolnshire, LN4 4SY
[redacted]

RAFGA Director of Governance

From: [redacted]
Sent: 15 December 2021 10:34
To: [redacted]
Cc: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

Did you get any feedback on the designs?

Best regards,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 01 December 2021 08:43
To: [redacted]
Subject: RE: Waddington ACP Design Options

Thanks [redacted] I will engage with Typhoon STANEVAL.

Kind regards

[redacted]

[redacted] | Air Traffic Control, RAF Coningsby, Lincolnshire, LN4 4SY
[redacted]

RAFGA Director of Governance

From: [redacted]
Sent: 01 December 2021 08:42
To: [redacted]
Subject: RE: Waddington ACP Design Options

[redacted]

It has also been sent to HQ 1Gp [redacted] but he has already responded to say '1Gp support these designs….' but no specifics on the designs themselves. Please feel free to send to Sqn Reps if you feel they will add any useful input.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

From: [redacted]
Sent: 01 December 2021 08:19
To: [redacted]
Cc: [redacted]
Subject: RE: Waddington ACP Design Options

Good morning [redacted]

Thanks for the info. Who is providing aircrew feedback into this request?

Kind regards

[redacted]

[redacted] Air Traffic Control, RAF Coningsby, Lincolnshire, LN4 4SY

[redacted]

RAFGA Director of Governance

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	RAF Coningsby ATC
Address (including postcode if possible)	Air Traffic Control RAF Coningsby Lincolnshire LN4 4SY

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

DP(1) – all LOW designs are reducing the amount of airspace available for local aerodrome deconfliction within the Lincolnshire Area of Intense Aerial Activity. This is reduced further if this airspace is active at the same time as other flying displays are active at RAF Coningsby, such as Typhoon Display and BBMF.

DP(4) – due to the close proximity of RAF Coningsby and RAF Cranwell, ATC workload will increase through liaison and coordination to maintain safe operations for all agencies.

DP(5) – observations by RAF Coningsby controllers has indicated that EG R313 does not provide sufficient airspace for RAFAT activities.

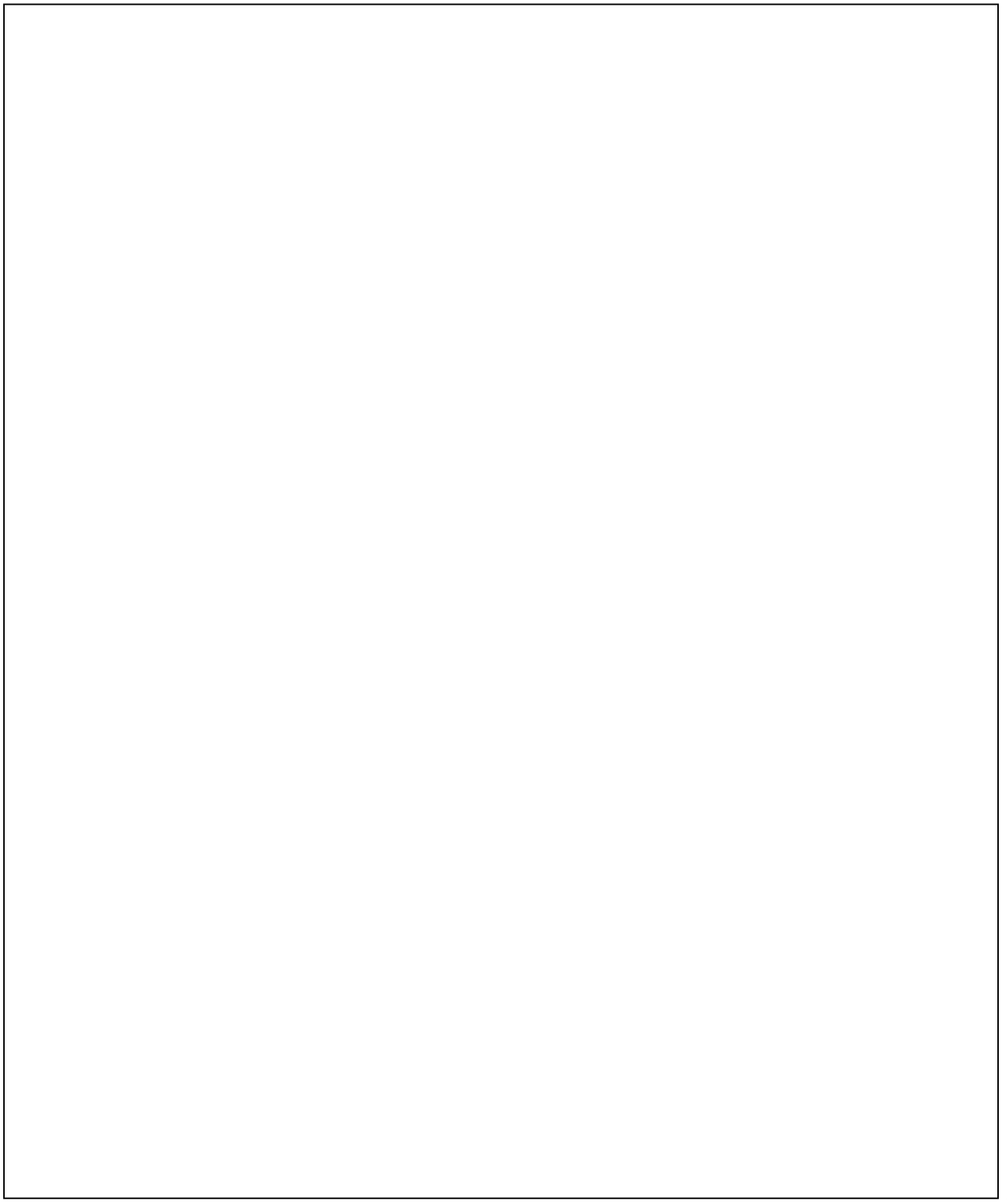
Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

All LOW options will impact recoveries (IFR or VFR) to RWY 07 at RAF Coningsby. These are:

- Extended recovery profiles to route around the airspace, conflicting with other airspace users.
- Reduction in airspace availability/flexibility which would increase controller workload.
- Reduced capacity to accept PDs or diversion commitments to support essential military flying.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

What is your biggest concern, if any, about this ACP?
The reduction of airspace available to safely deconflict RAF Coningsby and RAF Cranwell activity. For RWY 07 procedures at RAF Coningsby, aircraft are regularly routed to the north of RAF Cranwell through RAF Waddington's MATZ, and RAF Cranwell route to the south iaw a LoA to enable deconfliction. The activation of any of these LOW options would lead to extended IFR/VFR profiles for RAF Coningsby aircraft, routing around the airspace via RAF Scampton or routing to the south of RAF Cranwell, conflicting with RAF Cranwell increasing the likelihood of a MAC.
Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?
If you are a pilot do you routinely: • Operate an airband radio? Yes No • Operate a transponder? Yes No • Speak to ATC? Yes No • Fly above FL50? Yes No • Fly above FL100? Yes No
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? • Options 1 – 6 • Options 7 - 8
Any other feedback



Archived: 09 January 2022 18:07:21
From: [redacted]
Sent: 13 December 2021 13:36:16
To: [redacted]
Cc: [redacted]
Subject: RE: Waddington ACP Design Options
Response requested: Yes
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form - CRN Ops Wg.docx ;

Afternoon [redacted]

PSA the CRN Ops Wg response to the ACP design options. This response has considered the impact to the aerodrome, visual circuit, instrument approaches and MIDs at CRN. Airfield users, including 3 FTS, 6 FTS, the Cranwell (CWL) Flying Club and CWL Gliding Club have additional comments which have been/will be submitted separately.

BLUF. Option 1 is the only Low option acceptable to CWL due to the significant, detrimental impact which Options 2-6 would have upon either safety or output at CWL. Both Medium options (7 and 8) are viable.

Regards

[redacted]

[redacted] | RAFC Cranwell | Sleaford | Lincolnshire | NG34 8HB | [redacted]

From [redacted]
Sent: 01 December 2021 09:03
To: [redacted]
Subject: FW: Waddington ACP Design Options

All

In case you have not received this via 22 Gp/DFT/RAFGSA/RAFSA, stakeholders are being asked to provide feedback on Stage 2 (design options) of ACP-2019-18 - the creation of airspace over RAF Waddington for Protector and RAFAT. Full details are at Tile 2 or on the CAA website Airspace change proposal public view (caa.co.uk)

CRN Ops Wg will submit a response to articulate the impact to the aerodrome, visual circuit, instrument approaches and MIDs. However, you may have additional comments that you wish to make wrt the impact upon your en-route flying. On the assumption that 6 FTS will want to provide a consolidated CRN/WIT response and that the Flying Club/RAFSA may also want to provide a consolidated regional comment, my recommendation is that we all provide separate responses on the form at Tile 1, rather than attempt a single CRN return. Sqn Ldr Dave Wayman (contact details below) at DAATM will eventually collate all the responses into a single MOD return. The deadline for returns to him is COP 15 Dec 21.

Thanks

[redacted]

[redacted] RAFC Cranwell | Sleaford | Lincolnshire | NG34 8HB | [redacted]

From: [redacted]>
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	RAF Cranwell
Address (including postcode if possible)	[redacted] RAFC Cranwell | Sleaford | Lincolnshire | NG34 8HB

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

The existing local airspace is already complex and congested. Any new restrictions should be:

1. As simple as possible iot ensure airspace users can understand and comply with the restrictions.
2. The absolute minimum required (wrt both dimension and timings) iot minimise the amount of time during which a larger number of aircraft are contained within a smaller volume of airspace.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

This response has considered the impact to the aerodrome, visual circuit, instrument approaches and MIDs at CRN. Airfield users, including 3 FTS, 6 FTS, the Cranwell (CWL) Flying Club and CWL Gliding Club have additional comments which have been submitted separately.

BLUF. Option 1 is the only Low option acceptable to CWL due to the significant, detrimental impact which Options 2-6 would have upon either safety or output at CWL. Both Medium options (7 and 8) are viable.

Option 1 would have a small impact to Cranwell (CWL) traffic and procedures. A very similar airspace restriction was trialed for SKY GUARDIAN at WAD in Sep 21 with little disruption to adjacent airfields. The SKY GUARDIAN trial highlighted the importance of close liaison and discipline regarding activation times (safe but not overly restrictive) to minimize the impact to other airspace users and ATS providers. Wrt RAFAT use of this airspace, RAFAT pre-positioning must take place inside the protected airspace iot avoid further infringement of CRN ATZ, MATZ and confliction with AS departing from, inbound to or flying in the visual circuit at CWL. RAFAT break-off procedures (eg in the event of an intruder AS) must also be designed to avoid the CRN MATZ. An SLA/LOA would be required to determine relative priorities and procedures for (eg) emergency AS.

Options 2-6 would have a very restrictive effect for all Air Systems (AS) operating out of CWL. Significant changes to procedures and/or reduction in output will be required

iot avoid eroding safety margins. The proposed extended airspace restrictions would encroach into CWL's MATZ and ATZ with the following impacts:

1. Unable to use RW 19RH and 01LH (standard direction for weekday ops to avoid overflying CWL village).
2. Airspace restrictions to the North would remove the option for non-standard VFR departures direct to the NE and NW, forcing AS to depart end of downwind leg (EDWL). This departure has been heavily documented to cause pinch points and introduce conflictions with inbound radar traffic; indeed, the outcome from an OSI was to cease EDWL departures when an AS would need to cross the extended centreline.
3. Increased likelihood of holding departing AS (especially under IFR) on the ground iot ensure standard separation achieved.
4. Prevent a Northerly feed for a SPC recovery Rwy 26/08RH, forcing AS to climb to 2500' to route overhead BKH before a quick descent and turn inbound.
5. Impact visual recoveries and circuit traffic conducting PFL and overhead joins from the north.
6. MID1C would not be available as adequate IFR separation could not be achieved.
7. Increased likelihood of holding AS away from the airfield for extended periods of time. It is highly likely that AS would regularly have to divert.
8. RAFAT and Protector operating inside the CWL (M)ATZ at the same time as a very busy, mixed type and speed circuit environment with AS frequently practicing emergency scenarios will increase the likelihood of a loss of safe separation. The only way to fully mitigate this is for CRN to cease operations when the Option 2-6 airspace is active. This would result in a significant drop in 3 and 6 FTS output.

Options 7&8 may require COR to be applied to CRN MIDs, this impact is believed to be manageable.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).

Of the Low options, only Option 1 is acceptable to CWL.

What is your biggest concern, if any, about this ACP?

The erosion of the protection given to AS by the ATZ and MATZ which undermines the safe operating environment at CWL and increases the probability of a loss of safe separation.

Would this proposal impact you and, if so, are there any changes you would like to put forward for consideration?

Yes. Options 2-6 should be discounted because significant changes to procedures and/or reduction in output at CWL will be required iot avoid eroding safety margins.

If you are a pilot do you routinely:

• Operate an airband radio? Yes No • Operate a transponder? Yes No • Speak to ATC? Yes No • Fly above FL50? Yes No • Fly above FL100? Yes No
If you are a pilot how often do you fly within the boundaries of the proposed airspace (approximately per day / week / month)? • Options 1 – 6 • Options 7 - 8
Any other feedback
Nil

Archived: 09 January 2022 16:45:51
From: [redacted])
Sent: 30 November 2021 15:47:26
To: [redacted])
Subject: RE: Waddington ACP Design Options
Sensitivity: Normal

HQ 1 Gp support these designs. But then we would, wouldn't we!!

[redacted]

[redacted] Hurricane Bldg | RAF High Wycombe | Buckinghamshire | HP14 4UE | [redacted]

Links to :
HQ 1 Gp STAR SharePoint
1 Gp STAR Blog

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From: [redacted]
Sent: 30 November 2021 14:14
To [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted]s | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

[redacted]

Archived: 09 January 2022 18:11:05
From: [redacted]
Sent: 14 December 2021 16:17:43
To: [redacted]
Cc: [redacted]
Subject: FW: Waddington ACP Design Options
Response requested: Yes
Sensitivity: Normal
Attachments:
ACP-2019-18 - Stage 2 Stakeholder Feedback Response Form RAF Waddington HoE.docx ;

Afternoon Sir,

PFA the RAF Waddington HoE response to the Waddington ACP Engagement Letter.

Kind regards,

[redacted]

[redacted] Air Traffic Control | RAF Waddington, Lincoln, LN5 9NB | [redacted]

From: [redacted]
Sent: 30 November 2021 14:14
To: [redacted]
Subject: Waddington ACP Design Options

Good afternoon,

Please find attached an engagement letter from the UAS CDC for stage 2 (design options) of their ACP-2019-18, for the creation of airspace over RAF Waddington for Protector and RAFAT. Please complete the stakeholder feedback response form with answers to the questions regarding the designs. As I will be collating a single MOD response, please provide comments back to me **NLT COP 15 Dec 21**.

Best regards,

[redacted]

[redacted] Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | [redacted]

[redacted]

ACP-2019-18 - Stage 2 Engagement Feedback Response Form

Name	[redacted]
Representing	RAF Waddington [redacted]
Address (including postcode if possible)	[redacted] Royal Air Force Waddington Lincoln Lincolnshire LN5 9NB

We would be interested in feedback on the following items. Use additional space at the end of this form to provide comment on anything else.

Do you have any comments on the design principles?

Content with the Protector DPs.

In our view the excluded RAFAT DP as per Para 7.4 **should** be a DP of this ACP. We believe the MoD would expect to take a view of the direct impact of RAFAT on identified sensitive areas within any airspace design option. This stems from the unique nature of RAFATs high energy maneuvers in proximity to the ground. We are prepared to assist in providing known local sensitive areas to the ACP.

Feedback on airspace design options presented and their dimensions (including order of preference and rationale, if appropriate).

The preference for the low portion of airspace is **Option 1**. RAFAT operate within a 5nm radius using EG R313 already, and SG2UK21 demonstrated that Protector can operate well within a 5nm radius with ample “buffer”.

Although this option attracts significant work locally to review local agreements and to produce safe and effective local airfield operating procedures; it allows for the most flexible use of airspace and has the lowest impact. Combined with a principle of utilising as small a portion of airspace to accommodate a defined requirement, this is our preferred option.

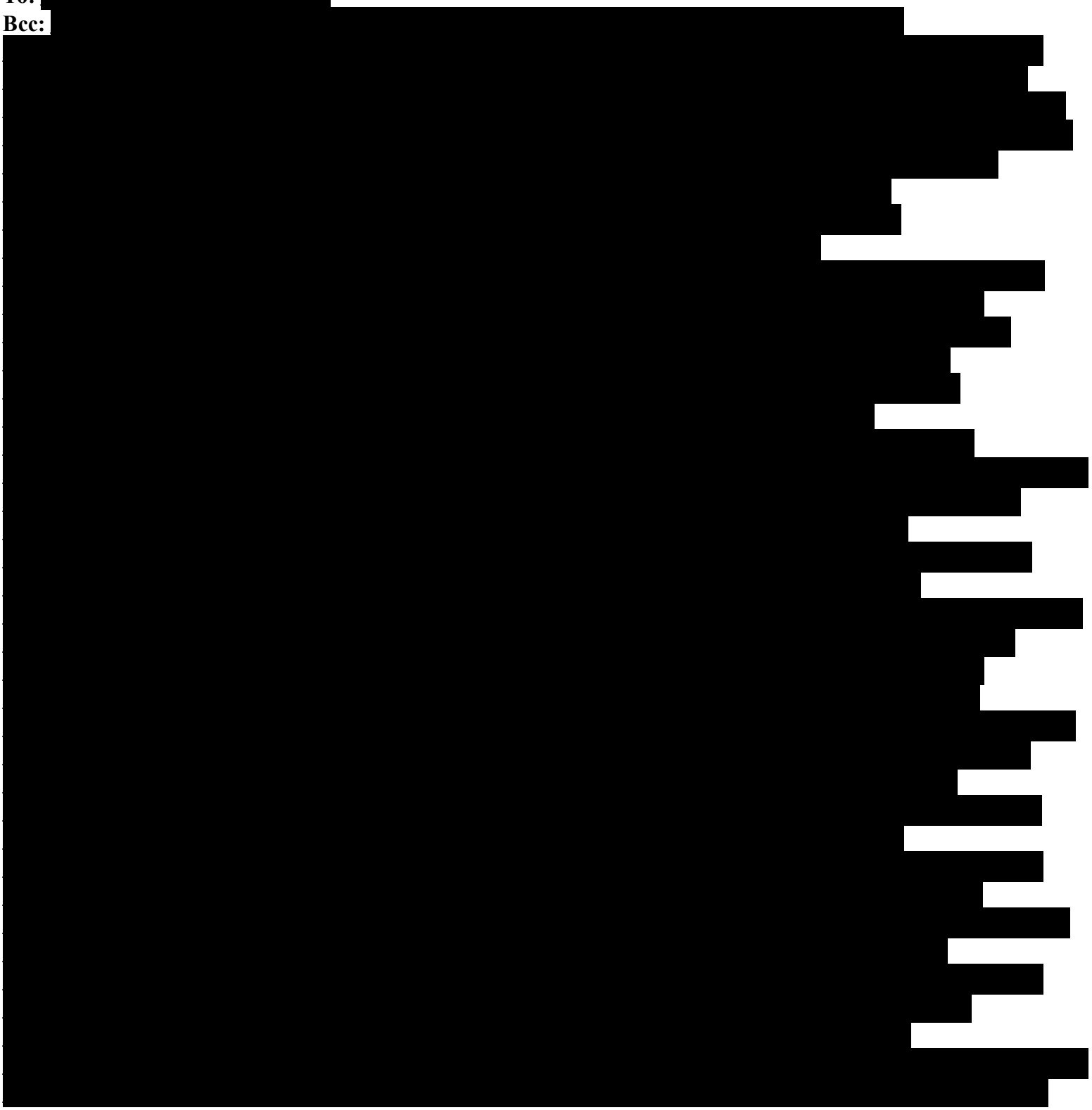
The preference for the medium portion of airspace is **Option 7**. Again, stemming from our principle of utilising as small a portion of airspace to accommodate a defined requirement. We acknowledge that there may be reasons, surrounding the CAA Safety Buffer Policy, meaning that another option may need to be pursued to provide displacement from the Lincs CTA.

Though not responsible for these areas, we would like to offer the following observations which may be a factor for this option.

1. The airspace is adjacent to the Gamston Radar Vectoring Corridor which may attract some complexity for crossing the two pieces of airspace.
2. The RAF Coningsby Military Instrument Departure North East passes through/close to this piece of airspace.
3. **Option 8** overlaps with the Langar paradropping site at its south west tip.

Feedback on preferred type(s) of segregated airspace to be implemented (including order of preference and rationale, if appropriate).
An option which ensures the required level of airspace integration and allows for the most flexible use of airspace. There are scant examples of controlled airspace which can be activated and deactivated by NOTAM dynamically as a matter of course. A type of airspace akin to the SG2UK21 TDA worked well, without unnecessarily burdening resources.
What is your biggest concern, if any, about this ACP?
The pursuit of a design option attracting a requirement for H24 or extended ATC operating hours (for controlled airspace crossing or an unbounded Danger Area Crossing Service) without full consideration and consultation with HQ Air Workforce Requirements with a supporting Workforce Scalar. The complex risk ownership environment following Pg MARSHALL. WAD radar services will be provided from the Lincs Radar Hub (at RAF Coningsby), while Protector will be operated at WAD, with a WAD based visual control element. This is likely to introduce a level of organisational complexity. AISA feedback provided from WAD in Apr 21 offered to elaborate on this to benefit the Protector Pg, and this offer still stands.
Any other feedback
The engagement letter suggests RAFAT display activity at WAD from **late** 2023 at Para 1.1 but later in Para 6.1 suggests **early** 2023. For the benefit of the wider aviation community being engaged with, and to avoid confusion, this could be clarified.

Archived: 14 April 2022 15:18:26
From: UASCDC-ACP UASCDC-ACP
Sent: 20 January 2022 16:48:00
To: [redacted]
Bcc: [redacted]



Subject: UC ACP-2019-18 Stage 2A & 2B submissions
Sensitivity: Normal

Dear Stakeholder,

I can confirm that the submission documents for ACP-2019-18 Stage 2, Steps 2A and 2B have been uploaded to the CAA's ACP online portal at https://airspacechange.caa.co.uk/PublicProposalArea?pID=142. The gateway for this point of the ACP is 28th January 2022 when the CAA will decide if the MOD has followed the process correctly and can proceed to the next stage in the process.

If successful, the MOD will be in touch with its next steps.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Email: UASCDC-ACP@ginetiq.com

UAS CDC

Please consider the environment before printing this email.

Archived: 14 April 2022 14:53:45
From: UASCDC-ACP UASCDC-ACP
Sent: 20 January 2022 16:56:00
To: UASCDC-ACP UASCDC-ACP
Bcc: [redacted]
Subject: UC ACP-2019-18 RAFAT Impact Statement (for info)
Sensitivity: Normal
Attachments:
Annex A to ACP-2019-18 Stage 2A Submission.pdf;

Dear stakeholder,

As you were one of the stakeholders who provided feedback on the airspace design options presented for ACP-2019-18 I thought it would be helpful to forward a statement prepared by RAFAT, which has been included in the Stage 2A and 2B submissions in an annex to both documents. During the options engagement some concern was expressed specifically regarding the safety aspects of RAFAT performing flying displays overhead RAF Waddington; in addition there was one query regarding the actual need for protected airspace for RAFAT. The Team prepared this statement specifically to answer such concerns; it has been included in both submissions (which are now uploaded to the portal at https://airspacechange.caa.co.uk/PublicProposalArea?pID=142). I thought it would be useful to send it out directly to you for information.

There was also a request for clarification regarding the timing for use of RAF Waddington airspace for RAFAT activity. I agree that the engagement letter was a bit ambiguous, so I asked RAFAT for clarification. The response received indicated that it would be preferable to have the airspace ready for use in early (Apr) 2023. However, the Team should not need the airspace if plans go ahead to complete its display training for the 2023 season via its routine deployment abroad on Ex SPRINGHAWK. Training in anger is likely to start late 2023. The ACP team will be fine-tuning timelines over the next few weeks and will keep our stakeholders advised of any changes.

Thank you for providing comment to the engagement material sent out – it was extremely helpful and is helping to shape the design options.

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[redacted]
Email: UASCDC-ACP@ginetiq.com

UAS CDC

Please consider the environment before printing this email.

Annex A to ACP-2019-18 Stage 2A Submission dated 14 Jan 2022

RAFAT ACP IMPACT STATEMENT

Background.
The Royal Air Force Aerobatic Team, officially known as RAFAT but more commonly referred to as The Red Arrows, perform high energy, highly dynamic low-level aerobatics in formations of up to 9 aircraft. Team training in the UK typically takes place from late September to late March using protected airspace over the Teams home-base at RAF Scampton. This airspace is 5nm radius up to 9300ft AGL and is known as EG R313. While training in the UK, there are normally 6 x 30-minute daily training slots (Monday-Friday) to allow 3 x slots for the main section and 3 x slots for the Synchro Pair. Typically, in early March, the Team are able to put the different formation elements together and start their 9-ship training, with a requirement for only 3 x 30-minute daily training slots. The Team then depart the UK for warmer climes and perfect their display routine abroad, typically in Greece and/or Cyprus. Following the Teams return to the UK in mid-late May, the display season typically provides the currency the Team need to keep their routine honed and consequently, practice display flying is infrequent during the summer months.

Airspace.
Having protected airspace is essential for the safety of the Team pilots and other airspace users. When display flying, the Team generally fly at 360kts, from 100ft AGL up to approximately 8000ft AGL if the weather allows a vertical routine. This makes reaction times slow, and it can be cumbersome to reactively manoeuvre the formation. As all pilots take references from the Team leader, there are very few pairs of eyes looking out for other traffic and the Team relies on a radar service for early warning of intruders. Following the decision to sell RAF Scampton, the Team will relocate to RAF Waddington in late 2022. While the Team plan to continue to focus almost entirely on the use of EG R313 for its training requirements, occasional use of RAF Waddington has been identified as best practice. This scenario is discussed in option 1 below. A more recent development has required further analysis of all future RAFAT training and this is discussed in option 2 below.

Option 1 (preferred). Occasional 30-minute practice slots over RAF Waddington are being considered to allow the Team to bed-in at their new home-base. This would allow the Teams important corporate visit and PR programme to continue without the complications of having to bus people to/from Scampton. Supervision of the Team would also be better served at their home-base and there are many other good reasons for considering this option. It must be stressed that this preferred option will only see infrequent RAFAT flying over RAF Waddington utilising protected airspace proposed under this ACP. Such activity will be limited to the minimum required and will be almost completely restricted to the winter training months before the Team deploy abroad in late March/early April each year. Such limited training will also provide vital information about the suitability of the site, should option 2 below be required in the longer-term.

Option 2. A recent development now threatens the future of EG R313 beyond April 2023, and it is conceivable that EG R313 will be removed at some point at, or after this date. Should this occur, the Team will be forced to enact a contingency plan that has been developed to ensure they can continue training. This would potentially see greater use of RAF Waddington and the protected airspace being proposed by this ACP. To ensure the site is suitable for such activity, option 1 will provide invaluable test and evaluation data as it is not yet known just how suitable the site will be. It must be stressed that if option 2 is used, EG R313 will be permanently removed.

Conclusion. The Teams preference is to retain the current status quo, with a near 100% focus on the continued use of EG R313, with occasional, short duration display slots overhead RAF Waddington. However, challenges surrounding the Teams move to RAF Waddington and the recent development of a threat to the very future of EG R313 itself has led to a requirement to look at using alternative airspace. Without protected airspace, the risk of mid-air collision would be

unacceptably high, and the RAF has a duty of care to mitigate risks and create an operating environment that is safe for all users. Through flexible use of airspace and the hope that EG R313 can continue to be used indefinitely, it is considered highly likely that any impact to other airspace users while RAFAT operate over RAF Waddington will be very limited. Should EG R313 become unusable, RAF Waddington may be used as one of a number of MOD sites used for Team training but in this situation, EG R313 will be permanently removed.

SAFETY ASSURANCE

Background. RAFAT display activity is governed by both military and civil regulations: Military Aviation Authority Regulatory Article 2335 (MAA RA 2335) and Civil Air Authority Civilian Air Publication 403 (CAP403). Whilst the applicability of the regulations can differ for some display activity (RA 2335 over MOD Property, CAP 403 over Non-MOD Property) the most restrictive of the regulations will be applied.

Assurance Activity. Display activity, including practice displays, will only be conducted within the bounds of an (MAA or CAA as required) approved display area and remains subject to the same rigorous levels of supervision, coordination, and control, of a full public display. The approval of a display area and profile considers the proximity of congested areas and the risk to 3rd parties. In addition, each practice is subject to authorisation and supervision by the Flying Display Supervisor who holds an accredited Flying Display Director qualification. All display activity overhead RAF Waddington will be monitored by Air Traffic Control and the Flying Display Supervisor who maintains direct radio communications to the participating aircraft. All displays (including practice) are video recorded to support rigorous debrief. The first and highest priority of any debrief is always any safety elements.

Conclusion. RAFAT display flying, as with all military flying, is risk managed to levels that are ‘As Low as Reasonably Practicable’ and ‘Tolerable’. Any activity that does not meet these criteria shall be ceased immediately until appropriate mitigation can be applied to assure continued safe conduct.

Archived: 14 April 2022 14:56:42
From: UASCDC-ACP
Sent: 20 January 2022 16:54:00
To: [redacted]
Subject: UC ACP-2019-18 Stage 2A and 2B submissions
Sensitivity: Normal
Attachments:
Annex A to ACP-2019-18 Stage 2A Submission.pdf;

Dear military stakeholder,

I can confirm that the submission documents for ACP-2019-18 Stage 2, Steps 2A and 2B have been uploaded to the CAA's ACP online portal at https://airspacechange.caa.co.uk/PublicProposalArea?pID=142. The gateway for this point of the ACP is 28th January 2022 when the CAA will decide if the MOD has followed the process correctly and can proceed to the next stage in the process.

As you were one of the stakeholders who provided feedback on the airspace design options presented for ACP-2019-18 I thought it would be helpful to forward a statement prepared by RAFAT, which has been included in the Stage 2A and 2B submissions in an annex to both documents. During the options engagement some concern was expressed specifically regarding the safety aspects of RAFAT performing flying displays overhead RAF Waddington; in addition there was one query regarding the actual need for protected airspace for RAFAT display practices. The Team prepared the statement specifically to answer such concerns; it has been included in both submissions (uploaded to the portal at the link above). Neither of the points above came from any of the MOD stakeholders, but I thought it would be useful to send the statement directly to your inboxes for information. All civilian respondents have received it today, too.

Waddington asked for clarification regarding the timing for use of RAF Waddington airspace for RAFAT activity. I agree that the engagement letter was a bit ambiguous, so I asked RAFAT for clarification. The response received indicated that it would be preferable to have the airspace ready for use in early (Apr) 2023. However, the Team should not need the airspace if plans go ahead to complete its display training for the 2023 season via its routine deployment abroad on Ex SPRINGHAWK. Training in anger is likely to start late 2023. The ACP team will be fine-tuning timelines over the next few weeks and will keep our stakeholders advised of any changes.

Thank you for providing comment to the engagement material sent out – it was extremely helpful and is helping to shape the design options. A series of Procedures Panels has just been commenced which will also benefit from your feedback.

[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.

Annex A to ACP-2019-18 Stage 2A Submission dated 14 Jan 2022

RAFAT ACP IMPACT STATEMENT

Background.
The Royal Air Force Aerobatic Team, officially known as RAFAT but more commonly referred to as The Red Arrows, perform high energy, highly dynamic low-level aerobatics in formations of up to 9 aircraft. Team training in the UK typically takes place from late September to late March using protected airspace over the Teams home-base at RAF Scampton. This airspace is 5nm radius up to 9300ft AGL and is known as EG R313. While training in the UK, there are normally 6 x 30-minute daily training slots (Monday-Friday) to allow 3 x slots for the main section and 3 x slots for the Synchro Pair. Typically, in early March, the Team are able to put the different formation elements together and start their 9-ship training, with a requirement for only 3 x 30-minute daily training slots. The Team then depart the UK for warmer climes and perfect their display routine abroad, typically in Greece and/or Cyprus. Following the Teams return to the UK in mid-late May, the display season typically provides the currency the Team need to keep their routine honed and consequently, practice display flying is infrequent during the summer months.

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Option 2. A recent development now threatens the future of EG R313 beyond April 2023, and it is conceivable that EG R313 will be removed at some point at, or after this date. Should this occur, the Team will be forced to enact a contingency plan that has been developed to ensure they can continue training. This would potentially see greater use of RAF Waddington and the protected airspace being proposed by this ACP. To ensure the site is suitable for such activity, option 1 will provide invaluable test and evaluation data as it is not yet known just how suitable the site will be. It must be stressed that if option 2 is used, EG R313 will be permanently removed.

Conclusion. The Teams preference is to retain the current status quo, with a near 100% focus on the continued use of EG R313, with occasional, short duration display slots overhead RAF Waddington. However, challenges surrounding the Teams move to RAF Waddington and the recent development of a threat to the very future of EG R313 itself has led to a requirement to look at using alternative airspace. Without protected airspace, the risk of mid-air collision would be

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Archived: 13 April 2022 19:48:05
From: UASCDC-ACP UASCDC-ACP
Sent: 13 April 2022 19:45:00
To: UASCDC-ACP UASCDC-ACP
Bcc: [redacted]
Subject: UC ACP-2019-18 Stage 2 Update
Sensitivity: Normal
Attachments:
ACP-2019- 18 Do-nothing Option for stakeholder awareness.pdf ;

Dear stakeholder,

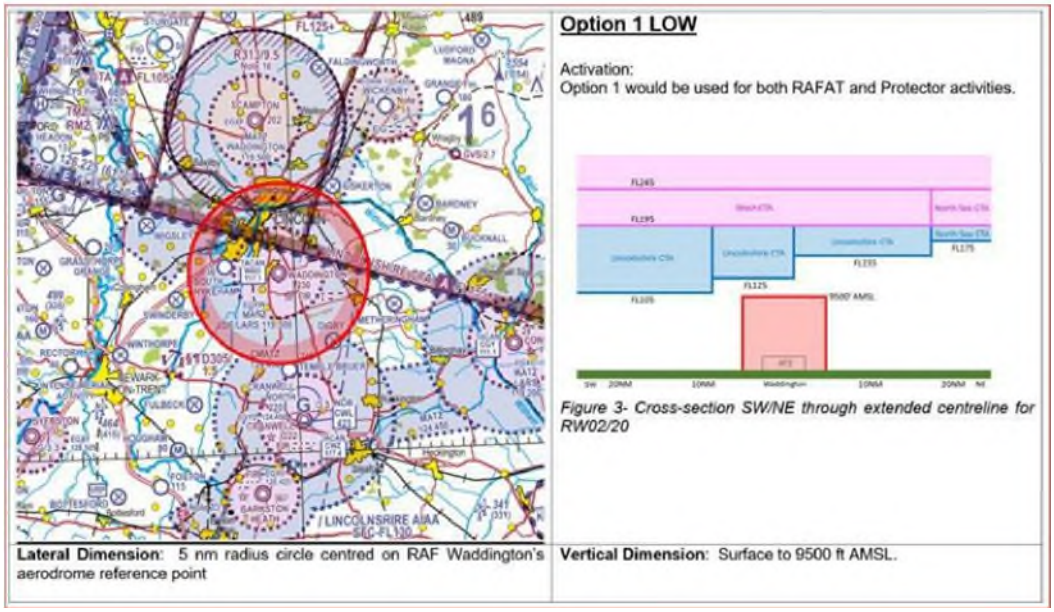
ACP-2019-18 titled "Enabling RPAS and RAF Aerobatic Team Operations out of RAF Waddington"

As you might be aware, the MOD's submission to the CAA for Stage 2 of ACP-2019-18 did not pass through the CAA Gateway when presented in January this year. The CAA provided the MOD with comment which has been considered and, in line with CAP1616, the Change Sponsor will be resubmitting the Stage 2 documentation for further review by the CAA at the Gateway meeting later this month.

The purpose of this email is to advise stakeholders of an important addition to the submission and to provide an update on the status of the airspace design options presented for comment at the end of 2021.

CAP1616 requires the Change Sponsor to carry out an 'Initial' appraisal of the impacts of each of the viable options identified in Step 2A. The Change Sponsor assesses each option against a 'do nothing' scenario. However, in the case of this ACP "doing nothing" would effectively deny access to the airspace directly above RAF Waddington for Protector and RAFAT. In such cases CAP1616 requires the Change Sponsor to assess each option against a baseline in which the "do nothing" scenario is used to describe the existing situation against which the changes that would result from the implementation of each proposed design option can be assessed. The MOD is including a baseline for the airspace concerning this ACP in the revised submission. As agreed with the CAA, it is not considered necessary to run a second round of formal engagement; rather, the Change Sponsor is providing this update which includes the baseline description at the attached document. Whilst there is no requirement for you to do so, you are welcome to provide feedback on the baseline to the MOD.

Regarding the status of the lower level airspace design options, the MOD is pleased to advise that in Mar 22, following continued collaboration with GA-ASI, the manufacturer of Protector, it was confirmed that the Protector activity could be contained within the airspace depicted in Option 1 LOW. This option is replicated in the figure below – it is wholly contained within a 5 nm radius circle based on the Waddington Aerodrome Reference Point, surface to 9500 ft AMSL. This was the MOD's preferred low level airspace design option and its confirmation of viability has enabled a review of the design principle evaluation. Option 1 LOW is the single low level airspace design option to pass through to Step 2B.



Please do not hesitate to get in touch with any comment or queries.

Regards,

[redacted]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

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

UAS CDC

Please consider the environment before printing this email.

Do-nothing option for ACP-2019-18

1. RAF Waddington sits entirely within class G airspace, which ordinarily does not provide adequate protection or segregation respectively for RAFAT and Protector at IOC. In broad terms civil and military regulations specify that without an appropriately approved Detect And Avoid (DAA) capability to enable compliance with the Rules of the Air appropriate to the class of airspace, Protector must be flown using a Layered Safety Approach that specifically requires flight in segregated airspace. At IOC, Protector will not have an appropriately approved DAA appropriate to Class G airspace. Protector will be based at RAF Waddington. Additionally, having protected airspace is deemed essential for the safety of the RAFAT pilots and other airspace users. "Doing nothing" would effectively deny access to the airspace directly above RAF Waddington for Protector and RAFAT. In such cases CAP1616 requires the Change Sponsor to assess each option against a baseline in which the "do nothing" scenario is used to describe the existing situation against which the changes that would result from the implementation of each proposed design option can be assessed. A map of the local area is at Figure 1. The baseline is as follows.

2. RAF Waddington in Lincolnshire is the hub of UK Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) and the main operating base for airborne intelligence aircraft and systems. Its current flying assets include:

a. RC-135W Rivet Joint (51 & 54 Sqns) - a dedicated electronic surveillance aircraft

b. Shadow R1 (14 & 54 Sqns) which contributes to the comprehensive intelligence gathering of the RAF's ISTAR Force.

c. E-3D Sentry AEW1, which was retired from active service in 2021 although is continuing an out-of-service training role.

d. Waddington Flying Club - a civilian flying club which operates PA28 and Tecnam P2008JC for flying training throughout the week and weekends.

Figure 1 – Local Area Airspace

3. RAF Waddington has an Aerodrome Traffic Zone (ATZ) and a Military Aerodrome traffic Zone (MATZ) and is abutted by RAF Scampton to the north and RAF Cranwell to the south. At the current time RAF Scampton is the home of RAFAT, which uses EG R313 throughout the year for aerobatic display practices[1] RAF Cranwell is the home No 3 & No 6 Flying Training School (FTS) operating the Embraer Phenom 100 (Multi Engine Pilot Training (MEPT)) aircraft and the 120TP Prefect aircraft respectively. It also has a thriving gliding club. RAF Coningsby is located to the east of RAF Waddington and is home to two frontline, combat-ready squadrons and is the training station for Typhoon pilots. It is also a RAF Quick Reaction Alert (QRA) station, protecting UK airspace. To the south west of RAF Waddington is RAF Syerston, home to 2 FTS, the RAF Central Gliding School and operates the Viking T Mk 1 glider and Robin DR400 aerotow aircraft.

4. Waddington's ATZ is a circle 2·5 nm radius centred on Waddington's aerodrome reference point (ARP) and is notified from surface to 2000ft AAL; the MATZ is a circle 5 nm radius centred on Waddington's ARP and is notified from surface to 3000ft AAL. Pilots requiring transit of either the Waddington ATZ / MATZ can to call Waddington Zone on frequency. No reply on the Zone frequency will indicate that Waddington MATZ can be crossed but pilots must continue to avoid the ATZ unless operating in accordance with previously agreed procedures. The Zone frequency is normally available 0800-1800 (local) Mon-Thu, Fri 0800-1700 (local) subject to station-based operational requirements.

5. The Lincolnshire CTA is located above and slightly north of RAF Waddington; the base level of Class A airspace overlaps Waddington's MATZ at FL125, lowering to FL85 to the west and rising to FL155 to the east. To the south of the CTA, the airspace is Class G up to FL195; Class C extends from FL195 upwards south of the CTA. However, during specified hours[2] much of the airspace over Lincolnshire is activated as a Temporary Reserved Area (TRA). Although the background classification between FL195 and FL245 is Class C, to avoid operational restrictions, military aircraft may operate autonomously or in be receipt of an air traffic service. MOD and USAFE aircraft are the predominant users but use of the TRA is not restricted to military users.

6. The local area is also populated by numerous civil airfields and airstrips supporting some significant leisure flying (general aviation, gliding, paragliding and parachute activity). Busy airfields at Temple Bruer and Wickenby are particularly adjacent to the proposed airspace and a very healthy level of general aviation and sporting/leisure flying activity takes place within the local area.

7. Over the past 5 years RAF Waddington's annual airfield movements have seen a reduction from 12431 in 2017 to around 9000 in each of the following 4 years. In 2021 the E3D was retired from service (although it is continuing to operate at RAF Waddington in an out-of-service training role); the Sentinel was retired in Feb 2022. Following this, early indications indicate a potential reduction in airfield movements for 2022 in the region of 20% compared with figures for 2018 – 2021.

8. About 18% of total movements last year were made up by practice diversions (PDs), the majority by aircraft from RAF Cranwell.

9. The aerodrome operating hours are notified as follows, although it should be noted that RAF Waddington currently operates a flexible flying window and times may differ from them at short notice:

a. 0800 – 2359 Mon – Thu
b. 0800 – 1800 Fri

[1] RAFAT is due to be relocated to RAF Waddington by end December 2022 following the closure of RAF Scampton (this is further explained in this ACP submission documentation).

[2] Mon-Fri 0830 to 1700 UTC Winter; Mon-Fri 0730 to 1700 UTC Summer; Excluding English Public Holidays. TRA may be activated at other times by NOTAM.

10. **Military aviation activity in current airspace construct.**

11. The MOD has presented 6 airspace design options up to 9500 ft AMSL directly over RAF Waddington to provide segregation for the Protector and RAFAT activities. The following paragraph endeavours to broadly describe the current military aviation activity in that airspace. Whilst military aviation is not wholly predictable, a typical day at RAF Waddington might be as follows. Rivet Joint and E3D aircraft are likely to depart early to their respective operating areas and recover later often carrying out an instrument approach to land. They do not routinely spend large amounts of time in the local area. Shadow may have up to 4 sorties per day, each typically departing to the northeast of Waddington for general handling activity before returning to base, crew change and repeat. Shadow may conduct a couple of radar circuits or visual circuits before landing. Waddington hosts numerous PDs throughout the day, mainly by RAF Cranwell aircraft and averaging 4 – 9 PDs per day. Waddington's Flying Club operates PA28 and Tecnam P2008JC which conduct sorties throughout the week and weekend, predominantly over the aerodrome and in the local area. The airspace directly overhead Waddington is used by aircraft from Cranwell and Coningsby to route outbound to the northwest and to position for instrument approaches to their respective aerodromes. These are all co-ordinated through routine ATC means.

12. The airspace design options presented to segregate Protector activity from 9500 ft – FL195 (airspace design Options 7 and 8 MEDIUM) encompass airspace that is used by Tutor and Prefect aircraft from RAF Cranwell up to 10,000ft. Cranwell's Phenom aircraft operate in in the same airspace FL80 – 120 and preferably above FL100 to separate from Tutor and Prefect traffic. Phenom operate 12 – 16 sorties per day with night flying on up to 3 nights per week. Phenom training syllabus includes airways joins at Trent and the aircraft make regular use of the Gamston and Lichfield Radar Corridors.

13. **Civilian aviation activity in current airspace construct:**

14. Whilst the MATZ is not a mandatory avoid for civil pilots, the majority of civil pilots call Waddington ATC when flying in proximity to RAF Waddington and when requiring to transit within 5 nm of RAF Waddington. On an average day, ATC will receive around 15 requests for MATZ and overhead crossings from GA aircraft (both leisure and sporting). This may peak to the high 20s on the busiest flying days, but is estimated to be less than 30 on any given day. Gliding activity is generally limited to the west and south of Waddington and is largely at 2000 – 5000 ft. Most requests for MATZ crossings are approved with minimum restrictions to the requested route and altitude. An occasional route alteration may be proposed by ATC to sequence crossers with Waddington traffic patterns either by lateral or vertical means. Outside the ATZ pilots are not duty-bound to accept the re-route and do not always do so, choosing to follow their stated route and keep a good lookout. The airspace 9500 ft – FL195 is used by gliders on a relatively infrequent basis and by the occasional aircraft leaving the national route structure to position for the Midlands airports. The British Parachute School aircraft at Langar make regular use of the area over the Vale of Belvoir up to FL150 as outlined in green on Figure 2 below.

Figure 2 – Langar Skydive Operating Area

Archived: 13 April 2022 20:00:35
From: UASCDC-ACP UASCDC-ACP
Sent: 13 April 2022 19:59:00
To: UASCDC-ACP UASCDC-ACP
Bcc: [redacted] **Subject:** UC ACP-2019-18 Stage 2 Update for Local Authorities
Sensitivity: Normal
Attachments:
ACP-2019- 18 Do-nothing Option for stakeholder awareness.pdf ;

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ACP-2019-18 titled "Enabling RPAS and RAF Aerobatic Team (RAFAT) Operations out of RAF Waddington"

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The purpose of this email is to advise stakeholders of an important addition to the submission and to provide an update on the status of the airspace design options presented for comment at the end of 2021. When I wrote to you in November last year, the majority of addressees on this mailing list (local authorities) expressed limited interest, but the MOD is required to update you as part of the regulatory process. You will receive continued updates unless you tell me you are no longer interested.

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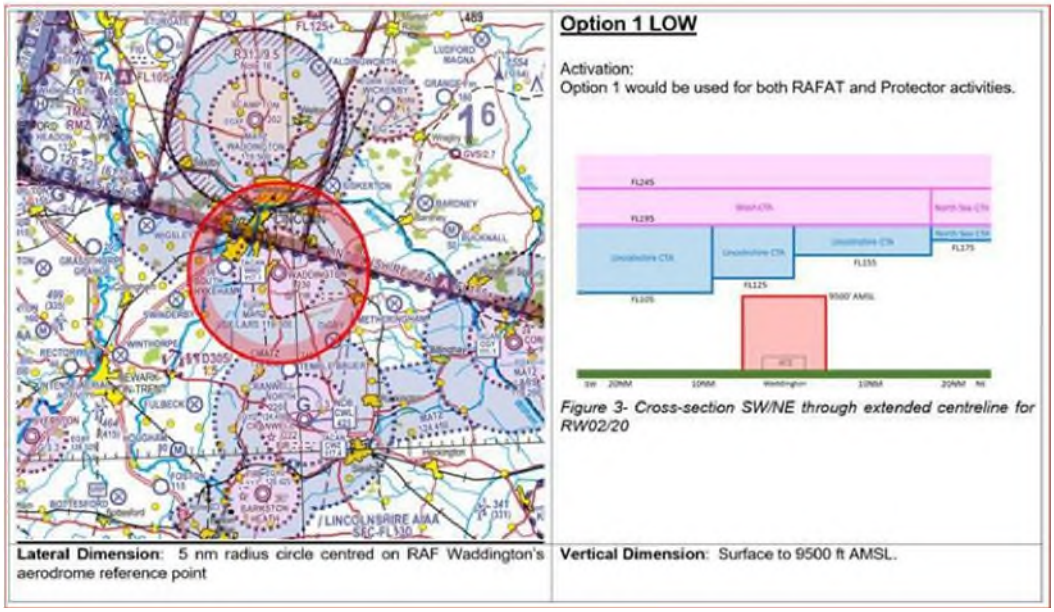

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Mobile: [redacted]
Email: UASCDC-ACP@qinetiq.com

UAS CDC

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3. RAF Waddington has an Aerodrome Traffic Zone (ATZ) and a Military Aerodrome traffic Zone (MATZ) and is abutted by RAF Scampton to the north and RAF Cranwell to the south. At the current time RAF Scampton is the home of RAFAT, which uses EG R313 throughout the year for aerobatic display practices[1] RAF Cranwell is the home No 3 & No 6 Flying Training School (FTS) operating the Embraer Phenom 100 (Multi Engine Pilot Training (MEPT)) aircraft and the 120TP Prefect aircraft respectively. It also has a thriving gliding club. RAF Coningsby is located to the east of RAF Waddington and is home to two frontline, combat-ready squadrons and is the training station for Typhoon pilots. It is also a RAF Quick Reaction Alert (QRA) station, protecting UK airspace. To the south west of RAF Waddington is RAF Syerston, home to 2 FTS, the RAF Central Gliding School and operates the Viking T Mk 1 glider and Robin DR400 aerotow aircraft.

4. Waddington's ATZ is a circle 2·5 nm radius centred on Waddington's aerodrome reference point (ARP) and is notified from surface to 2000ft AAL; the MATZ is a circle 5 nm radius centred on Waddington's ARP and is notified from surface to 3000ft AAL. Pilots requiring transit of either the Waddington ATZ / MATZ can to call Waddington Zone on frequency. No reply on the Zone frequency will indicate that Waddington MATZ can be crossed but pilots must continue to avoid the ATZ unless operating in accordance with previously agreed procedures. The Zone frequency is normally available 0800-1800 (local) Mon-Thu, Fri 0800-1700 (local) subject to station-based operational requirements.

5. The Lincolnshire CTA is located above and slightly north of RAF Waddington; the base level of Class A airspace overlaps Waddington's MATZ at FL125, lowering to FL85 to the west and rising to FL155 to the east. To the south of the CTA, the airspace is Class G up to FL195; Class C extends from FL195 upwards south of the CTA. However, during specified hours[2] much of the airspace over Lincolnshire is activated as a Temporary Reserved Area (TRA). Although the background classification between FL195 and FL245 is Class C, to avoid operational restrictions, military aircraft may operate autonomously or in be receipt of an air traffic service. MOD and USAFE aircraft are the predominant users but use of the TRA is not restricted to military users.

6. The local area is also populated by numerous civil airfields and airstrips supporting some significant leisure flying (general aviation, gliding, paragliding and parachute activity). Busy airfields at Temple Bruer and Wickenby are particularly adjacent to the proposed airspace and a very healthy level of general aviation and sporting/leisure flying activity takes place within the local area.

7. Over the past 5 years RAF Waddington's annual airfield movements have seen a reduction from 12431 in 2017 to around 9000 in each of the following 4 years. In 2021 the E3D was retired from service (although it is continuing to operate at RAF Waddington in an out-of-service training role); the Sentinel was retired in Feb 2022. Following this, early indications indicate a potential reduction in airfield movements for 2022 in the region of 20% compared with figures for 2018 – 2021.

8. About 18% of total movements last year were made up by practice diversions (PDs), the majority by aircraft from RAF Cranwell.

9. The aerodrome operating hours are notified as follows, although it should be noted that RAF Waddington currently operates a flexible flying window and times may differ from them at short notice:

a. 0800 – 2359 Mon – Thu
b. 0800 – 1800 Fri

[1] RAFAT is due to be relocated to RAF Waddington by end December 2022 following the closure of RAF Scampton (this is further explained in this ACP submission documentation).

[2] Mon-Fri 0830 to 1700 UTC Winter; Mon-Fri 0730 to 1700 UTC Summer; Excluding English Public Holidays. TRA may be activated at other times by NOTAM.

10. **Military aviation activity in current airspace construct.**

11. The MOD has presented 6 airspace design options up to 9500 ft AMSL directly over RAF Waddington to provide segregation for the Protector and RAFAT activities. The following paragraph endeavours to broadly describe the current military aviation activity in that airspace. Whilst military aviation is not wholly predictable, a typical day at RAF Waddington might be as follows. Rivet Joint and E3D aircraft are likely to depart early to their respective operating areas and recover later often carrying out an instrument approach to land. They do not routinely spend large amounts of time in the local area. Shadow may have up to 4 sorties per day, each typically departing to the northeast of Waddington for general handling activity before returning to base, crew change and repeat. Shadow may conduct a couple of radar circuits or visual circuits before landing. Waddington hosts numerous PDs throughout the day, mainly by RAF Cranwell aircraft and averaging 4 – 9 PDs per day. Waddington's Flying Club operates PA28 and Tecnam P2008JC which conduct sorties throughout the week and weekend, predominantly over the aerodrome and in the local area. The airspace directly overhead Waddington is used by aircraft from Cranwell and Coningsby to route outbound to the northwest and to position for instrument approaches to their respective aerodromes. These are all co-ordinated through routine ATC means.

12. The airspace design options presented to segregate Protector activity from 9500 ft – FL195 (airspace design Options 7 and 8 MEDIUM) encompass airspace that is used by Tutor and Prefect aircraft from RAF Cranwell up to 10,000ft. Cranwell's Phenom aircraft operate in in the same airspace FL80 – 120 and preferably above FL100 to separate from Tutor and Prefect traffic. Phenom operate 12 – 16 sorties per day with night flying on up to 3 nights per week. Phenom training syllabus includes airways joins at Trent and the aircraft make regular use of the Gamston and Lichfield Radar Corridors.

13. **Civilian aviation activity in current airspace construct:**

14. Whilst the MATZ is not a mandatory avoid for civil pilots, the majority of civil pilots call Waddington ATC when flying in proximity to RAF Waddington and when requiring to transit within 5 nm of RAF Waddington. On an average day, ATC will receive around 15 requests for MATZ and overhead crossings from GA aircraft (both leisure and sporting). This may peak to the high 20s on the busiest flying days, but is estimated to be less than 30 on any given day. Gliding activity is generally limited to the west and south of Waddington and is largely at 2000 – 5000 ft. Most requests for MATZ crossings are approved with minimum restrictions to the requested route and altitude. An occasional route alteration may be proposed by ATC to sequence crossers with Waddington traffic patterns either by lateral or vertical means. Outside the ATZ pilots are not duty-bound to accept the re-route and do not always do so, choosing to follow their stated route and keep a good lookout. The airspace 9500 ft – FL195 is used by gliders on a relatively infrequent basis and by the occasional aircraft leaving the national route structure to position for the Midlands airports. The British Parachute School aircraft at Langar make regular use of the area over the Vale of Belvoir up to FL150 as outlined in green on Figure 2 below.

Figure 2 – Langar Skydive Operating Area

Annex A

RAFAT ACP IMPACT STATEMENT

Background.
The Royal Air Force Aerobatic Team, officially known as RAFAT but more commonly referred to as The Red Arrows, perform high energy, highly dynamic low-level aerobatics in formations of up to 9 aircraft. Team training in the UK typically takes place from late September to late March using protected airspace over the Team's home-base at RAF Scampton. This airspace is 5nm radius up to 9300ft AGL and is known as EG R313. While training in the UK, there are normally 6 x 30-minute daily training slots (Monday-Friday) to allow 3 x slots for the main section and 3 x slots for the Synchro Pair. Typically, in early March, the Team are able to put the different formation elements together and start their 9-ship training, with a requirement for only 3 x 30-minute daily training slots. The Team then depart the UK for warmer climes and perfect their display routine abroad, typically in Greece and/or Cyprus. Following the Team's return to the UK in mid-late May, the display season typically provides the currency the Team need to keep their routine honed and consequently, practice display flying is infrequent during the summer months.

Airspace.
Having protected airspace is essential for the safety of the Team pilots and other airspace users. When display flying, the Team generally fly at 360kts, from 100ft AGL up to approximately 8000ft AGL if the weather allows a vertical routine. This makes reaction times slow, and it can be cumbersome to reactively manoeuvre the formation. As all pilots take references from the Team leader, there are very few pairs of eyes looking out for other traffic and the Team relies on a radar service for early warning of intruders. Following the decision to sell RAF Scampton, the Team will relocate to RAF Waddington in late 2022. While the Team plan to continue to focus almost entirely on the use of EG R313 for its training requirements, occasional use of RAF Waddington has been identified as best practice. This scenario is discussed in option 1 below. A more recent development has required further analysis of all future RAFAT training and this is discussed in option 2 below.

Option 1 (preferred). Occasional 30-minute practice slots over RAF Waddington are being considered to allow the Team to bed-in at their new home-base. This would allow the Team's important corporate visit and PR programme to continue without the complications of having to bus people to/from Scampton. Supervision of the Team would also be better served at their home-base and there are many other good reasons for considering this option. It must be stressed that this preferred option will only see infrequent RAFAT flying over RAF Waddington utilising protected airspace proposed under this ACP. Such activity will be limited to the minimum required and will be almost completely restricted to the winter training months before the Team deploy abroad in late March/early April each year. Such limited training will also provide vital information about the suitability of the site, should option 2 below be required in the longer-term.

Option 2. A recent development now threatens the future of EG R313 beyond April 2023, and it is conceivable that EG R313 will be removed at some point at, or after this date. Should this occur, the Team will be forced to enact a contingency plan that has been developed to ensure they can continue training. This would potentially see greater use of RAF Waddington and the protected airspace being proposed by this ACP. To ensure the site is suitable for such activity, option 1 will provide invaluable test and evaluation data as it is not yet known just how suitable the site will be. It must be stressed that if option 2 is used, EG R313 will be permanently removed.

Conclusion. The Team's preference is to retain the current status quo, with a near 100% focus on the continued use of EG R313, with occasional, short duration display slots overhead RAF

Waddington. However, challenges surrounding the Team's move to RAF Waddington and the recent development of a threat to the very future of EG R313 itself has led to a requirement to look at using alternative airspace. Without protected airspace, the risk of mid-air collision would be unacceptably high, and the RAF has a duty of care to mitigate risks and create an operating environment that is safe for all users. Through flexible use of airspace and the hope that EG R313 can continue to be used indefinitely, it is considered highly likely that any impact to other airspace users while RAFAT operate over RAF Waddington will be very limited. Should EG R313 become unusable, RAF Waddington may be used as one of a number of MOD sites used for Team training but in this situation, EG R313 will be permanently removed.

SAFETY ASSURANCE

Background. RAFAT display activity is governed by both military and civil regulations: Military Aviation Authority Regulatory Article 2335 (MAA RA 2335) and Civil Air Authority Civilian Air Publication 403 (CAP403). Whilst the applicability of the regulations can differ for some display activity (RA 2335 over MOD Property, CAP 403 over Non-MOD Property) the most restrictive of the regulations will be applied.

Assurance Activity. Display activity, including practice displays, will only be conducted within the bounds of an (MAA or CAA as required) approved display area and remains subject to the same rigorous levels of supervision, coordination, and control, of a full public display. The approval of a display area and profile considers the proximity of congested areas and the risk to 3rd parties. In addition, each practice is subject to authorisation and supervision by the Flying Display Supervisor who holds an accredited Flying Display Director qualification. All display activity overhead RAF Waddington will be monitored by Air Traffic Control and the Flying Display Supervisor who maintains direct radio communications to the participating aircraft. All displays (including practice) are video recorded to support rigorous debrief. The first and highest priority of any debrief is always any safety elements.

Conclusion. RAFAT display flying, as with all military flying, is risk managed to levels that are 'As Low as Reasonably Practicable' and 'Tolerable'. Any activity that does not meet these criteria shall be ceased immediately until appropriate mitigation can be applied to assure continued safe conduct.

Annex B

Date issued: 02 February 2021

File reference: CWL OPS ATC / Air Safety Mgmt / Safety Meetings / 20210201 LAUG Minutes

MINUTES FOR LINCOLNSHIRE AIRSPACE USERS GROUP MEETING HELD VIRTUALLY AT 0900 ON 26 JANUARY 2021

Present	[redacted]	Chair / OC Ops CWL
	[redacted]	OC Ops CGY
	[redacted]	Programme Manager (MARSHALL)
	[redacted]	OC Ops WAD
	[redacted]	MARSHALL Lead
	[redacted]	SATCO CWL
	[redacted]	SATCO CGY
	[redacted]	Air SO2 Airfields
	[redacted]	RAF Safety Centre
	[redacted]	2FTS HQ
	[redacted]	115 Sqn
	[redacted]	Mtg Sec
	[redacted]	RAF Central Gliding School
	[redacted]	DSATCO WAD
	[redacted]	CFS Exam Wg
	[redacted]	FLOps CWL
	[redacted]	16 Sqn
	[redacted]	DSATCO CGY
	[redacted]	3 FTS ASMT
	[redacted]	SWK Mil
	[redacted]	ATC RAF Scampton
	[redacted]	RAF Donna Nook
	[redacted]	CON Safety Dep
	[redacted]	RAF Cranwell Gliding Club
	[redacted]	Air Cap ISTAR
	[redacted]	UAS CDC
	[redacted]	Temple Bruer
	[redacted]	SATCO BKH
	[redacted]	UAS CDCQinetic
	[redacted]	P'boro & Spalding Gliding Club
	[redacted]	UAS CDCQinetic
	[redacted]	P'ton & Boston Flying Club
	[redacted]	East Midlands Airport
	[redacted]	CAA
	[redacted]	Lincolnshire Gliding Club
	[redacted]	Peterborough & Spalding Gliding Club

	[redacted]	Humberside (GA)

Meeting opened at 0905 hrs.

Item	Minutes	Action
1. Notice, Apologies and Quorum.	a. This meeting was held via tele-conference dial-in and MS Teams due to COVID-19.	
2. Chair's Address	a. OC Ops introduced the meeting and the format was outlined. All present were thanked all for joining virtually.	
3. Protector ACP [redacted]	a. A 20-minute presentation was given on the Protector and the ACP at RAF Waddington. **Key Points:** b. Expected RAF in service date early to mid-2023. Expected to achieve initial operational capability in late 2023 with final operational capability in 2025. c. Initially Protector will not have certified use of any detect and avoid capability for the first 2 years of operation. d. Stage 2 of the ACP expected to complete in Apr / May 21 and an invitation to respond will be given to all in due course. All pertinent information will be available on the CAA ACP portal. e. Sky Guardian (Prototype of Protector) intends to operate from WAD between Jul – Oct 21. ACP for Sky Guardian is separate from Protector and expected to be simpler due to FAA certified detect and avoid capability.	
4. Programme MARSHALL [redacted]	a. A 20-minute presentation was given on Programme MARSHALL and the significant changes it presents to Lincolnshire. **Key Points:** b. Current RAF ATM equipment is approaching or has exceed 'end of life' and modernisation is required to conform with latest regulation. c. 'Hub and Satellite' model to be implemented with RAF Coningsby as the Lincolnshire hub allowing for a more efficient use	

	of personnel. d. From an aviator / operator perspective there will be little noticeable change. e. New STAR NG (Primary) and WAM (Secondary) Radar to be implemented which offers much better performance and reliability. Both are fully compliant with CAA regulations. f. Aircraft with an ICAO Annex 10 Transponder will be detected by the new Radars. However, the new system will not detect FLARM.	
5. Local Updates	a. **RAF Barkston Heath** – Nil. b. **RAF Cranwell** – New VCCS (Comms System) now live. ATC operating with low staffing due to COVID restrictions and have been reliant on support from local units. SATCO CWL offered thanks to those that have helped support the CWL flying task. 3FTS report that Phenom formation flying is set to return and more serviceability with Prefects is expected. c. **RAF Conningsby** – Preparing for MARSHALL with integration of Waddington ATC. Plans in place to offer more robust LARS timings. SATCO CGY offered further support to 3FTS if needed. d. **RAF Donna Nook** – Nil. e. **RAF Waddington** – Preparing for Sky Guardian arrival in the summer. Still unknown on the duration of the airspace required to support the UAS on any given day. RAFAT trial still expected potentially in Feb / Mar 21. Mil / Civ AIP updates in progress. f. **RAF Wittering** – Nil. g. **RAF Scampton** – Closure still going ahead as planned in Dec 22. Opening hours will fluctuate due to staffing impacted by COVID restrictions. PDs to be booked on the day but are available. RAFAT Ex SPRINGHAWK scheduled for end or Apr – mid May 21 which will increase PD availability.	

	h. **RAF(U) Swanwick –** Nil. i. **RAF Syerston** – Still operating on a reduced capacity mid-week. Weekend flying currently paused due to COVID. j. **CAA** – Skywise service and CAA ACP portal is available for useful updates. Change to VMC criteria in Class D airspace is reverting to original rules in May 21. Requests for airspace infringement reports to be sent to Rob Gratton (CAA). New team stood up within CAA to look at airspace reclassification. The electronic conspicuity rebate scheme is still available. The ACP for Holbeach AWR has been withdrawn. k. **East Midlands Airport** – ACP currently paused. Informal agreement for PDs with CWL has worked well despite an initial discrepancy on circuit heights. Commercial activity has curtailed due to COVID, but cargo activity remains high. l. **Doncaster Airport** – No rep. m. **Humberside (GA)** – Nil. n. **Leicester Aeroclub** – No rep. o. **Pointon & Boston Flying Club** – No flying due to COVID. Decoy Farm is now under new ownership and further meeting details will be passed on. p. **Langar / Skydive UK** – No rep. q. **Buckminster Gliding Club** – No rep. r. **Black Spring Farm –** No rep. s. **P'boro & Spalding Gliding Club –** Few glider pilots hold radio licences. Clarification was requested on how best to communicate with local units if operating in large numbers in close proximity. OC Ops CWL requested any details on large scale cross-country gliding to be passed on by the clubs to the local units. t. **Lincolnshire Gliding Club –** Nil. u. **RAF Cranwell Gliding Club –** Paused due to COVID. ATZ defaults to gliding / flying club control at weekends if ATC is closed.	

	v. **Temple Bruer –** Nil w. **Rectory Farm –** No rep.	
6. AOB	a. PSGC rep asked to confirm if the STAR NG Radar detects ADSB information. OC Ops advised a definitive answer would be promulgated in LAUG newsletter. b. CAA working with DfT on the future of electronic conspicuity in UK airspace. Numerous TDAs required by industry to trial RPAS beyond visual line of sight. It was stressed that these TDAs are temporary and can be managed very flexibly for other air users. c. The Chair encouraged all mtg attendees to share the information from the LAUG with the wider aviation community and encouraged GA / glider pilots to make radio contact with local units despite the lack of proficiency or currency to better improve safety. d. The Chair announced that she leaves her post in May 21 and her successor will arrange the next LAUG. Thanks were passed to all attendees for their engagement.	**Mtg Sec**
7. Next Meeting	a. Late 2021 – COVID dependent.	

Meeting closed at 1020 hrs.

[Electronically Signed]

[redacted]
ATCO
RAFC Cranwell

Distribution (electronically*):

All mtg attendees*

Annex C

10 Mar 22

See Distribution

MINUTES OF THE LINCOLNSHIRE AIRSPACE USERS GROUP (LAUG) MEETING HELD IN THE RAF CRANWELL STATION BRIEFING ROOM AT 1300 ON 3 MAR 22

Present [redacted]	OC Ops Wg, RAF Cranwell OC Ops Wg, RAF Coningsby OC A Flt, 207Sqn 3FTS ASMT RAF Wittering SATCO RAF Waddington Assurance RAF Flight Safety Centre RAF Cranwell SATCO SO3 SSC RAF Coningsby OC Ops Wg, RAF Wittering RAF Waddington Transition Team Ops RAFAT ASM RAF Cranwell Flying Club RAF Cranwell Air Traffic Control RAF Waddington Air Traffic Control RAFAT RAF Waddington SFSO RAF Cranwell SEMSCO RAF Waddington ASW RAF Scampton Flight Safety 115 Sqn RAF Wittering SO3 Assurance, 3FTS RAF Syerston AS RAF Coningsby DSATCO EMUAS RAF Cranwell Gliding Club RAF Scampton ATC Darlton Gliding Club Humberside Air Traffic Control 2Xcel QUINETIQ (Protector) Temple Bruer RAF Barkston Heath SATCO Pointon and Boston Aero Club CAA Rep Lincs Police Drone Pilot Castle Bytham Lincs Gliding Club Buckminster Gliding Club Peterborough and Spalding Gliding Club GA Pilot, Humberside and Wickenby RAF Cranwell ATC	Chair Sec

Item 1 – Opening remarks.	**Action**

1. The Chair welcomed everyone to the meeting. She thanked everyone for their attendance and explained the structure of the meeting and apologised for the last-minute venue change. Everyone was encouraged to share the meeting's minutes with other airspace users not in attendance and also to forward invites to future meetings to other interested parties.

Item 2 – Minutes from the previous meeting.

2. All actions were agreed as complete.

3. **Correction**. The previous minutes had suggested that the Lincolnshire Terminal Air Traffic Control Centre (TATCC) would provide radar ATS at greater range and for longer hours than is currently provided by military ATS units. It was highlighted that this is an aspiration for the medium-long term and not a confirmed provision in the short term.

Item 3 – Lincolnshire Police drone brief

4. [redacted] from Lincolnshire Police gave a presentation about the capability of the drones used by Lincolnshire Police, including examples of where the drones have been used to provide support to Police on the ground. He explained that all pilots are fully trained and are operating in uncontrolled airspace. The drones have ADSB detection capability and do not operate above 400ft (they rarely need to go even that high). The Police have the legal authority to operate in FRZs but will always attempt to inform the relevant person/parties before doing so.

5. Lincolnshire Police will be holding a series of open days in 2022 to assist with education and enforcement.

Item 4 – Protector and RAFAT RA(T) Update

6. [redacted] from QinetiQ updated the group on the plans for Protector moving forward. She explained that, due to its limited detect and avoid capability, Protector would require segregated airspace in the climb/descent from/to RAF Waddington to join controlled airspace. It is expected that an improved detect and avoid system will be installed at a later date. [redacted] thanked everyone who had responded to the consultation and explained that it was likely that the segregated airspace imposed for Protector would be that of a danger area in order to make it easier to activate and deactivate and therefore minimise disruption.

7. She explained that Protector's auto-land capability currently requires a 5.5nm downwind circuit for landing, hence the proposed 6nm radius of the RA(T). A request for a smaller profile has been submitted and a response is expected imminently. This will be fed into the group.

8. The current timeline for implementation is that Stage 2 will be submitted at the end of Apr 22 with consultation expected Sep-Nov 22. The ACP will be submitted in Mar 23 for implementation in Dec 23.

*Presentation slides distributed with minutes and can be requested through the Sec.

Item 5 – RAFAT Airspace change brief from [redacted]

9. [redacted] provided information to the group regarding the closure of RAF Scampton, the future activities of RAFAT and R313 options. RAFAT will

be based at RAF Waddington from Oct 22 and a number of winter training options are being explored. The preferred option currently is to keep R313 after the sale of RAF Scampton in Apr 23; the majority of RAFAT training could then be conducted within R313 with occasional displays conducted over RAF Waddington for corporate/sponsor events. If R313 is lost then alternative locations being investigated include Waddington, Syerston and Donna Nook.

10. There will be a trial of display flying at Waddington taking place 28 Mar-8 Apr 22, with a RA(T) being established for short periods during those two weeks. A question was raised as to whether the radius of this RA(T) would be 5 or 6nm. **Post meeting note:** The RA(T) activated in the period 28 Mar-8 Apr will be a 5nm radius.

* Presentation slides distributed with minutes and can be requested through the Sec.

Item 6 – Low Level Common trial and Airprox brief

11. [redacted] presented an overview of Airprox and what immediate actions should be taken by any pilot or ATS provider who believes an airprox has occurred. He stressed the importance of an RT call to an ATS Unit at the earliest opportunity so that tapes can be impounded and both air systems involved made aware as soon as possible.

12. Statistics of Airprox data were presented and the utility of Collison Warning Systems was discussed. It was highlighted that 76% of Airprox in 2020 took place below 3000ft. This was one factor which had led to the introduction of a new VHF low level common frequency trial which is taking place 1 Jun 21 – 1 Jun 22. This frequency, 130.490, is meant for airspace users operating below 2000ft agl. It is not to be confused with SAFTYCOMM or used as a replacement for a LARS, rather it is intended for use in areas with limited or no LARS availability. More information can be found at the slides sent with the minutes.

* Presentation slides distributed with minutes and can be requested through the Sec.

Item 7 – CAA

13. An Airspace Classification Team has been set up to understand how airspace is performing and to proactively make changes to improve airspace utility for all. They are currently reviewing the Cotswolds region of Airspace but will then be moving on to the Barnsley region. Users are requested to provide input on issues or queries that they have regarding airspace to this team. The CAA rep has provided a number of useful links for the User Group to access which are attached to these minutes.

Item 8 – RAF Flight Safety Centre

14. NTR.

Item 9 – RAF Coningsby

15. The MARSHALL transition is progressing and RAF Waddington controllers are currently undergoing Top Sky training before they transition to Coningsby on 4 Apr. The transition will not affect airspace users who should continue calling the same frequencies and using the same units as they

currently do. Coningsby's radars will be changing from Watchman and Secondary Surveillance Radar to Star NG and Wide Area Multilateration (WAM) in a couple of weeks. This will provide controllers with an improved radar picture due to a lower base of coverage, improved serviceability and update rates and new collision warning tools.

16. A question was raised as to whether the transition would improve LARS provision at weekends. It was stated that the transition would have no immediate impact upon workforce levels or the ability to provide LARS on a weekend. However, if pilots have an emergency, they should still call Coningsby ATC and they will receive help.

Item 10 – RAF Waddington

17. RAF Waddington radar controllers will move to Coningsby on 4 Apr. This will be a new way of working for all the local units so users are requested to remain patient while any teething issues are worked through, but they will receive a service. There will be no change to frequencies or phone numbers for Waddington as a result of the move.

18. New PBN Procedures are expected to take effect from 31 Mar 22.

19. Waddington SFSO, Flt Lt Neil Healey has experience of working with GASCO and is happy to provide support for any issues that airspace users may have. He can be contacted at neil.heaney794@mod.gov.uk.

Item 11 – RAF Wittering

20. As a result of the newly-extended Luton airspace 8nm south of Wittering, most Tutor pilots are opting to go North into Sectors 3 and 4. 16 Sqn will endeavour to request that Tutors still operate to the south of the airfield but it expected that there will be a higher Tutor presence in Sectors 3 and 4 than previously.

21. Wittering ATC is now open six days per week Mon-Sat to support Air Cadet flying at the weekend. A BS may therefore be available to the GA community on a Sat but this will be dependent on controller workload. The transition to the East (Marham) TATCC is starting to have an effect on ATC workforce levels which are currently down by 33%.

Item 12 – RAF Cranwell

22. An electric aircraft will operate from Cranwell 10-24 Mar 22. The Pipistrel will fly approx 25 30-minute sorties over the two-week period Mon-Fri. The sorties will comprise two 5-min transits and 15-20 mins of GH between 500-2000ft. GH operating areas will be to the W and SE of Cranwell, just outside the MATZ. It is transponder equipped but has no TAS or FLARM. The Pipistrel will primarily operate out of Cranwell but may use Barkston as a diversion airfield.

23. Night flying at Cranwell will take place 19-21 and 26-28 Apr 22. It is expected that Prefect will also be night flying so it will be slightly busier than normal. There will be no impact on Cranwell's ability to operate as a Diversion during the day on these dates.

24. There will be a Queen's Platinum Jubilee Flypast on 2 Jun. A rehearsal is expected to be held at Cranwell, using CHOM as the datum, in May, date

TBC. **Post meeting note:** this has been provisionally scheduled for 24 May, with 26-27 May as back-up.

Item 13 – 3FTS

25. 3FTS monitor Glidernet as a planning tool to avoid glider activity in the local area. Prefect and Phenom are FLARM and TAS equipped.

26. We are currently constrained in the winter months by the Fuel System Inclining Inhibitor (FSII) availability and would like to thank those stations who are supporting us as a landaway and diversion option. However, a continual problem is diversion acceptance by local military airfields and airfields refusing diversion commitments after last landing but before ATC have closed as per published hours.

Item 14 – EMUAS

27. There are currently four Tutors operating Wed-Sun from Cranwell. It is expected that two more Tutors will arrive back at Cranwell in the near future. Cadet flying has recommenced on weekends and is expected to get busier as the summer months approach.

Item 15 – RAFC Cranwell Flying Club

28. The Flying Club is back in full operation at Cranwell.

Item 16 – RAFC Cranwell Gliding Club

29. The Gliding Club at Cranwell is operating at full capacity of up to 70 winch launches per day. They operate an aero tow up to 5000ft and can operate 150km-200km away from the airfield. FLARM has helped in preventing potential conflictions from developing into Airprox.

Item 17 – RAF Barkston Heath

30. NTR.

Item 18 – RAF Scampton

31. The draw down for RAF Scampton is on schedule for the end of the year with a handover to DIO scheduled for Mar 23. RAFAT are due to cease flying at Scampton on 10 Oct 22 with all other flying due to end at Scampton on 1 Sep 22.

Item 19 – RAF Syerston

32. RAF Syerston is back operating seven days per week with more aerotow operations in place.

Item 20 – Humberside

33. Humberside ATC would like to thank Prefect and Phenom for their custom and encourage the continued use of the airfield for PDs.

34. Search and Rescue operate 24/7 out of Humberside so blind calls to Tower if transiting the ATZ are requested to deconflict. Humberside flying

club are also increasing their flying capacity, so pilots are encouraged to monitor the ATZ frequency when weekend flying in the vicinity of Humberside.	
Item 21 – Temple Bruer	
35. NTR.	
Item 22 - Buckminster	
36. Operations take place seven days per week at Saltby. A winch is operated up to 3500ft with a Tow operating up to 5000ft into the aerobatics box. The site is well mapped, but they are still having issues with pilots overflying the area.	
37. Saltby will host the University Gliding Club Competition 9-17 Jul 22 and the Club Class National Champs 23-31 Jul 22 so there will be increased activity during these periods. More detail on planned competitions and routes can be found at glidingtasks.co.uk	
Item 23 - Wickenby	
38. Wickenby operate Wed - Sun each week.	
Item 24 – Pointon & Boston Aero Club	
39. NTR	
Item 25 – Peterborough and Spalding Gliding Club	
40. NTR	
Item 26 – Lincolnshire Gliding Club	
41. It was stated that the LOA with Waddington requires updating. Waddington ATC confirmed that a full review of all their LOAs was underway and that contact would be made with all LOA owners.	**All**
Item 27 - AOB	
42. Attendees were encouraged to consider whether there are any other Lincolnshire airspace users who should be invited to attend future LAUGs and to pass recommendations, and contact details if known, to the Sec.	**All**
43. If any member has any presentations or briefs that they would like to see or think would prove useful to the group, please let the Sec know so that this can be arranged.	**Sec**
Item 28 – Next Meeting	
44. The next meeting will be held in Sep 22, full details will follow in due course.	

<Original signed>

[redacted]
Sgt
ATCO
RAFC Cranwell
01400 267281

Distribution:

All LAUG Invitees*
Cmdt 3FTS*
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